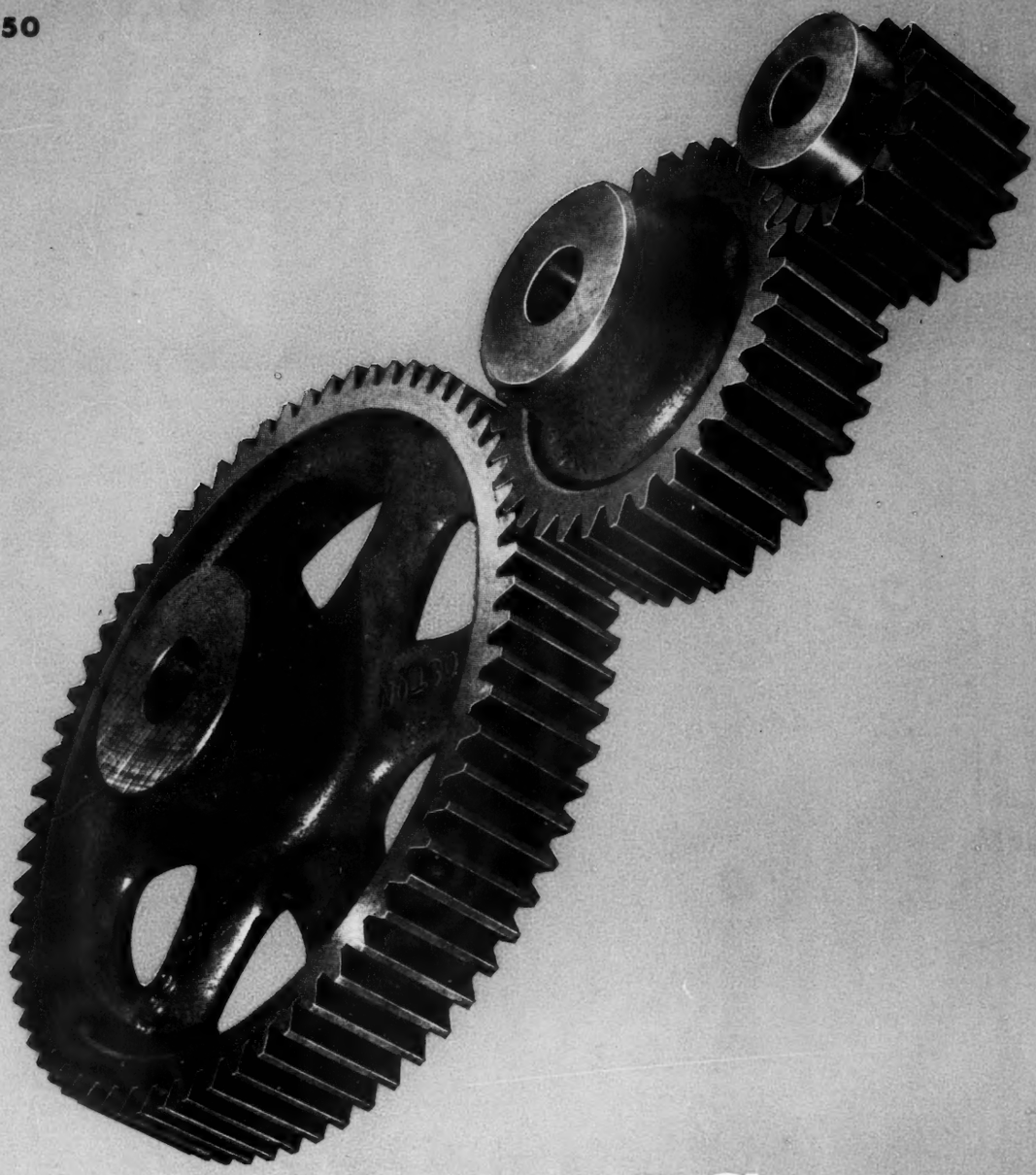
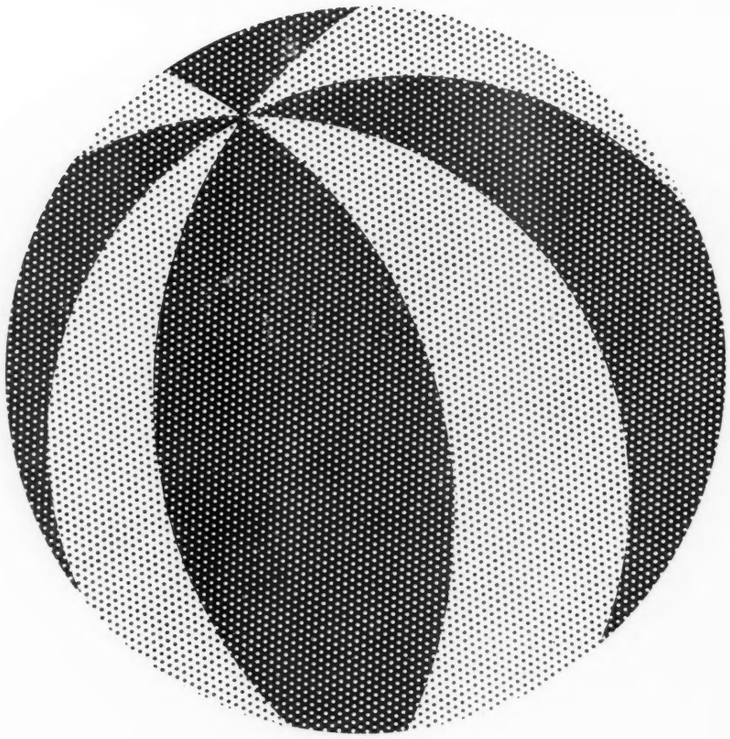
RCH 1950



PRINTING EQUIPMENT *Engineer*

Vacation in Chicago and Attend the



6th Educational Graphic Arts Exposition

September 11-23, 1950

at the International Amphitheatre

Biggest Show Ever Arranged by and for the Graphic Arts

Exhibits in Action of Equipment and Supplies for the Composing Room, Press Room, and Bindery; Art, Camera, Platemaking and other departments for production in Letterpress, Lithography, Gravure, and Silk Screen Printing.

175 Exhibitors using three acres of space on one floor.

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The International Ass'n. of Ptg. House Craftsmen, Inc.	Hotel Stevens	Sept. 10, 11, 12, 13.
Printing Industry of America, Inc.	Palmer House	Sept. 17, 18, 19, 20.
International Typographic Composition Ass'n.	Sheraton Hotel	Sept. 14, 15, 16.
Book Manufacturers' Institute	Edgewater Beach Hotel	Sept. 11, 12, 13.
Lithographers' National Ass'n.	Edgewater Beach Hotel	Sept. 7, 8, 9.
National Graphic Arts Education Ass'n.	Hotel Sherman	Sept. 21, 22, 23.
Label Manufacturers' National Ass'n.	Edgewater Beach Hotel	Sept. 9, 10, 11.

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Enthusiastic users of the STA-HI MasteRouter in newspaper plants throughout the country bear out our claims for this equipment. Here's what they have to say:

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STA-HI CORPORATION • 235 W. WASHINGTON BLVD. • WHITTIER, CALIF.

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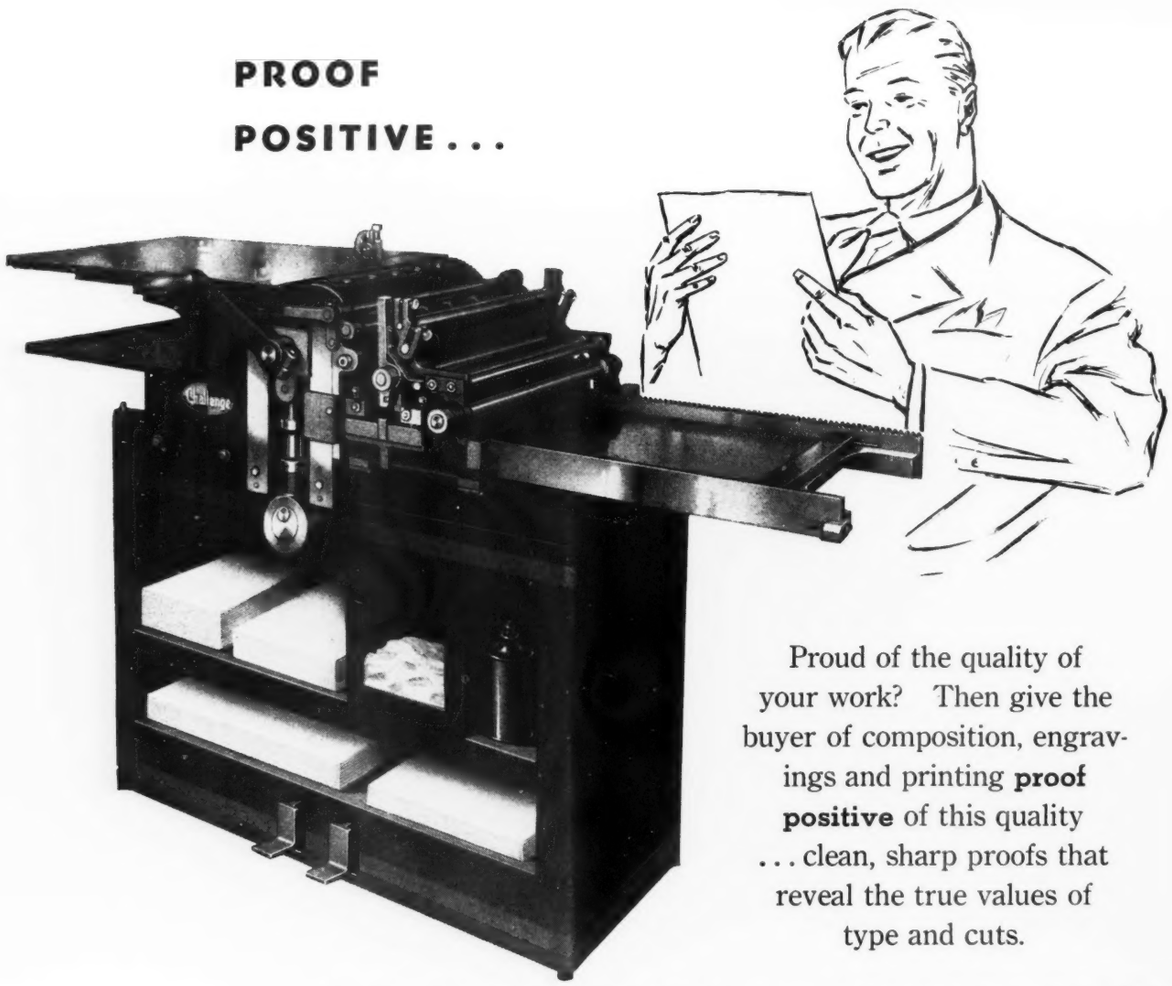

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NEW CHALLENGE® Series K PROOF PRESSES

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Challenge

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CHICAGO SEPTEMBER 11-23 1950

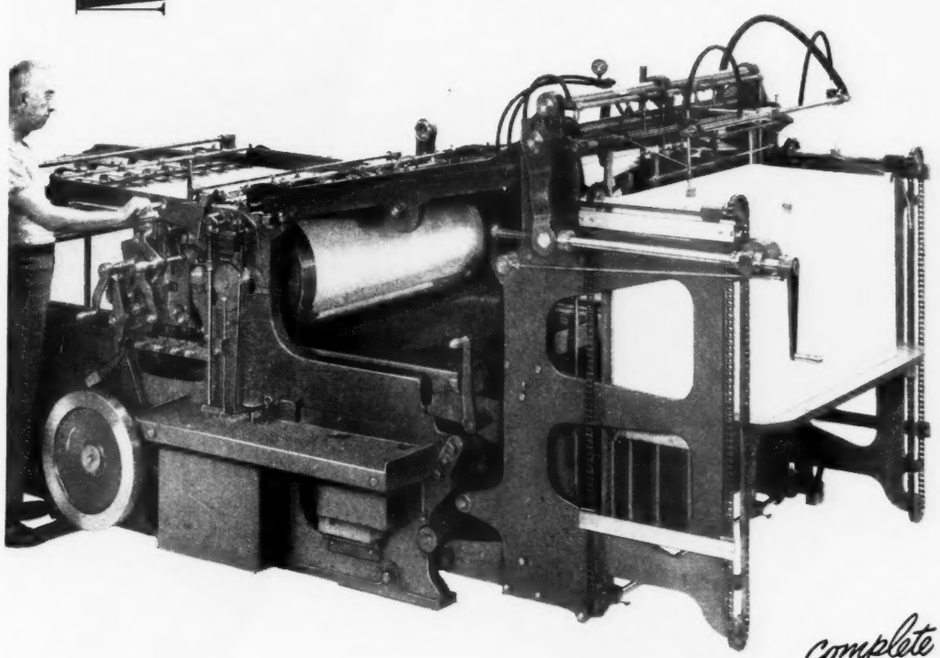
MILLER

Bed Size.....32⅜" x 41¾"
Maximum Sheet.....28" x 41"
Maximum Size Form on Bed.....25" x 41"
Maximum Size Form in Chase.....25" x 38"
Range of Operating Speed.....2000 to 4000

✤ 27½" x 41" maximum form on bed. 27½" x 38" maximum form in chase with cylinder advanced and one form roller lifted.

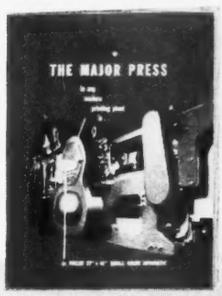
All Miller cylinder presses have the same automatic feeder with simple, basic adjustments and operation. A pressman capable of operating one Miller press, can operate another of different size with little or no additional instruction.

27" X 41" SY SINGLE COLOR LETTERPRESS



miller

This eight page booklet fully describing the 27 x 41 SY Press will be sent without obligation upon your request.



complete specifications
Floor Plans
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DALLAS 1
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DETROIT 10
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INDIANAPOLIS 2

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PRINTERS' ROLLERS
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GRAPHIC ARTS EXPOSITION
CHICAGO-SEPTEMBER 11-23-1950

PRINTING EQUIPMENT *Engineer*

A TECHNICAL MAGAZINE

MARCH
1950

Volume 79 Number 6

Published especially for management, production and mechanical executives responsible for printing production and the specification of equipment and supplies used in the commercial, magazine, private plant and daily newspaper fields.

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CHICAGO·SEPTEMBER 11-23·1950

SCOTT *Modern Web Control Makes *Practical* Normally Difficult Runs

The cut above shows a folder running at a speed of over forty thousand per hour in the plant of the Dayton *Daily News*. Note half of the web from the upper formers is feeding in between the two lower formers. The other half is running outside the frame and feeding into the center of the finished product.

***THERE IS NO FLUTTERING OF THE WEBS**

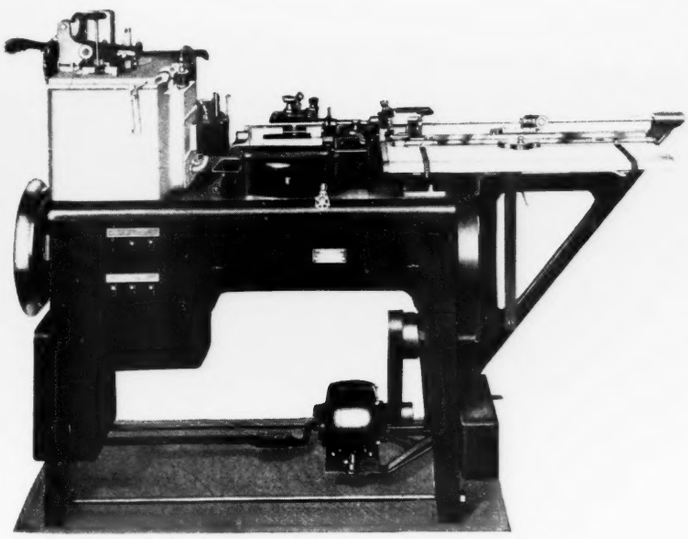
WALTER SCOTT & CO., INC.

PLAINFIELD, N. J.

The Elrod

helps to solve strip material troubles

An Elrod installation in your plant goes a long way toward overcoming the annoyance and inevitable waste time due to strip material shortages, particularly when the daily program necessitates a continuous supply sufficient for any possible requirement. With an Elrod on the job, compositors and makeup men go about their work with a comfortable feeling, being sure of plenty of material for spacing and blocking out when and where they need it. It is no accident that so many important printing and publishing plants look to the Elrod for their strip material supply, for it has proved its worth and dependability through the years. Their satisfaction can be duplicated in your own plant. Simple in design and mechanism, the Elrod consistently delivers an accurate product. Write today for full information about the Elrod and its many advantages. There is no obligation, of course.



The Elrod Lead, Slug, Rule and Base Caster
produces high-quality strip material ranging in size from 1-point to 36-points in thickness—all from a single machine.

LUDLOW TYPOGRAPH COMPANY **2032 Clybourn Avenue, Chicago 14, Ill.**
Set in members of the Ludlow Bodoni family

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The NEW KELLY THREE... 25" x 37"

puts you in the profitable book, advertising and publication fields...*in a big way!*

Its economy-size sheet puts you in the 25" x 38" class, yet keeps your profits from dribbling into the baling machine. It lets you run a full form of sixteen 6" x 9" pages, or eight 9" x 12" pages, with ample allowance for trim. Its new high speeds, up to 3500 an hour with easy cruising at 3000 on certain stocks, pile up your daily production *fast* at less cost per thousand impressions. With its redistributed weight, that cuts vibration to the bone, makeready stays made ready, and the high quality, fine register work you turn out will generate pride in your whole plant. Besides, this handsome new streamlined Kelly Three, with its rounded edge steel safety plates in two tones of gray protecting all moving parts at the sides, embodies *more new* features to increase production and get-at-ability and cut operating costs than any other press in its size class.

So, you think it sure sounds good, but such a press must be priced 'way up! You're wrong; it's priced 'way down! The first cost of the Kelly Three delivered and installed in your shop is *thousands of dollars* LESS than you would expect. Hourly operating cost is less, too.

There's lots more you ought to know about the new Kelly Three and its mechanical and operating improvements. Be sure to ask your ATF Representative to give you all the facts about this remarkable press.

An ATF Associate

American Type Founders

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Manufacturers of Kelly Presses, Little Giant Presses, Chief Offset Presses, Web-fed Offset Presses, Gravure Presses, Foundry Type and Process Cameras. Distributors of Vandercook, Challenge, Chandler & Price, Hamilton and Rosback Equipment for Composing Room, Pressroom and Bindery.

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For Your Copy of the NEW

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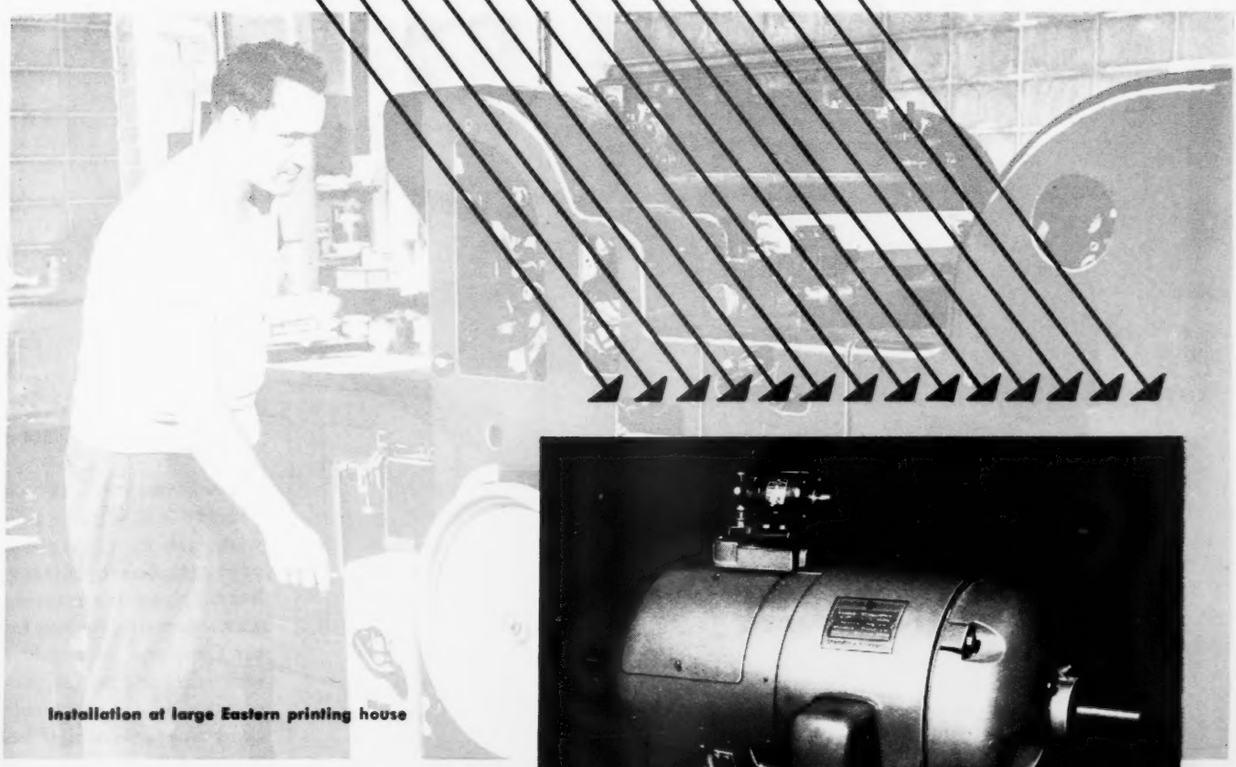
IT WILL show you all of the Vandercook Equipment now in production... including proof presses, test presses, a block leveller, plate, type and slug gauges. All are illustrated and accompanied by complete descriptions and specifications as well as prices with standard and optional equipment.

VANDERCOOK PRE-PRESS SYSTEM -CUTS COSTS!

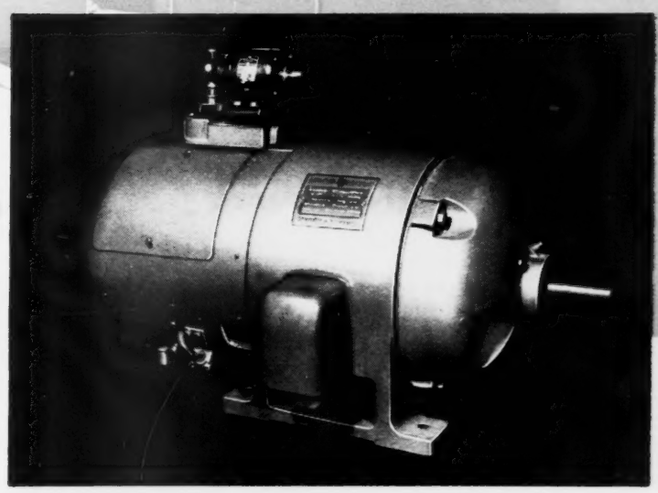
VANDERCOOK & SONS, INC. 900 NORTH KILPATRICK AVENUE, CHICAGO 51, ILLINOIS

Exhibitor — Graphic Arts Exposition, Chicago, September 11 to 23, 1950

NEW ADJUSTABLE-SPEED DRIVE FOR OFFSET



Installation at large Eastern printing house



G-E press-mounted system gives increased production at LOWER COST

Now the time-tested adjustable-speed (Type ACA) motor with built-in preset speed adjustment is combined with pilot motor and control unit to give the offset printing industry these important advantages:

OFFERS d-c speed characteristics with a-c power advantages; holds virtually the same smooth speed under different press loads.

ALLOWS a wider printing range. Speed ranges (printing ranges) of 3-1, 6-1, and 20-1 are stock items, available immediately. Slowdown and quick stopping features are also available.

PROVES less expensive on all counts:

1. Initial cost is equal to or lower than other drives.
2. Installation cost is much lower since the size of the control unit is but 10% the size of those on other press drives, and allows press mounting.
3. Maintenance cost is cut to a bare minimum since the control consists only of line contactors.

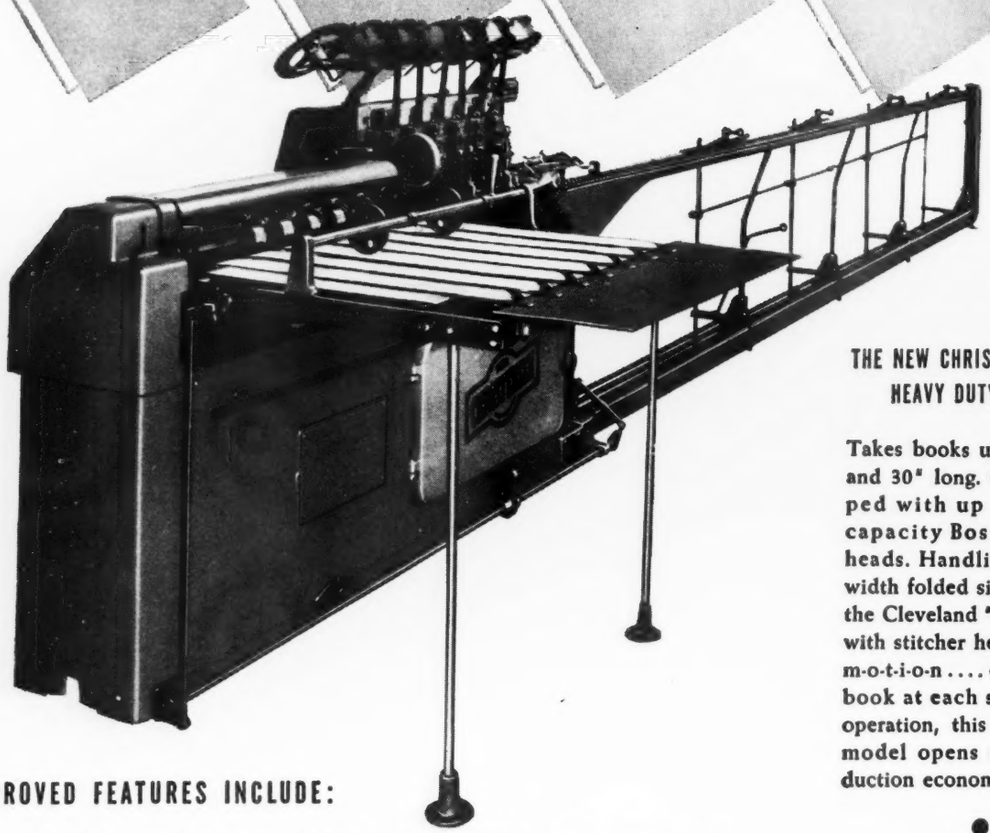
For immediate information concerning this packaged drive system, contact the printing specialist in your nearest G-E office or write now for our bulletin GEA-4883. Apparatus Department, Section 653-6, General Electric Company, Schenectady, N. Y.

GENERAL ELECTRIC

653-6

Saddle Stitching Steps Ahead....

New Model Handles Larger Signatures with Increased Efficiency



THE NEW CHRISTENSEN No. 55 HEAVY DUTY STITCHER

Takes books up to 18" wide and 30" long. Can be equipped with up to eight ¼" capacity Boston Stitcher heads. Handling maximum width folded signatures from the Cleveland "MM" folder.. with stitcher heads at s-l-o-w m-o-t-i-o-n .... one complete book at each stitcher head operation, this entirely new model opens up new production economies.

●

You'll want more information about how this new Christensen Model No. 55 Heavy Duty Stitcher may improve your bindery service and help move production costs downward. We'll be glad to furnish it upon request.

IMPROVED FEATURES INCLUDE:

1. 60° angle saddle instead of the usual 90° helps center books for greater accuracy. Cuts down friction.
2. Individual adjustment for each clincher—a further aid to improved accuracy.
3. No tapes on delivery rolls. Books pressed into spring rollers by tucker blades.
4. Counter-equipped delivery. Books counted in groups of ten. No setting required.
5. Carriage stroke adjustment setting and gears for changing length of conveyor chain travel—are located below stitcher heads. No setting adjustment in back of machine.
6. Maximum long book at single stitcher head operation, or double operation, if desired.
7. New ease of feeding and setting for varying jobs.

This Model is made in other sizes also—and for use with No. 18 Boston Stitcher Head.

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9 out of 10...

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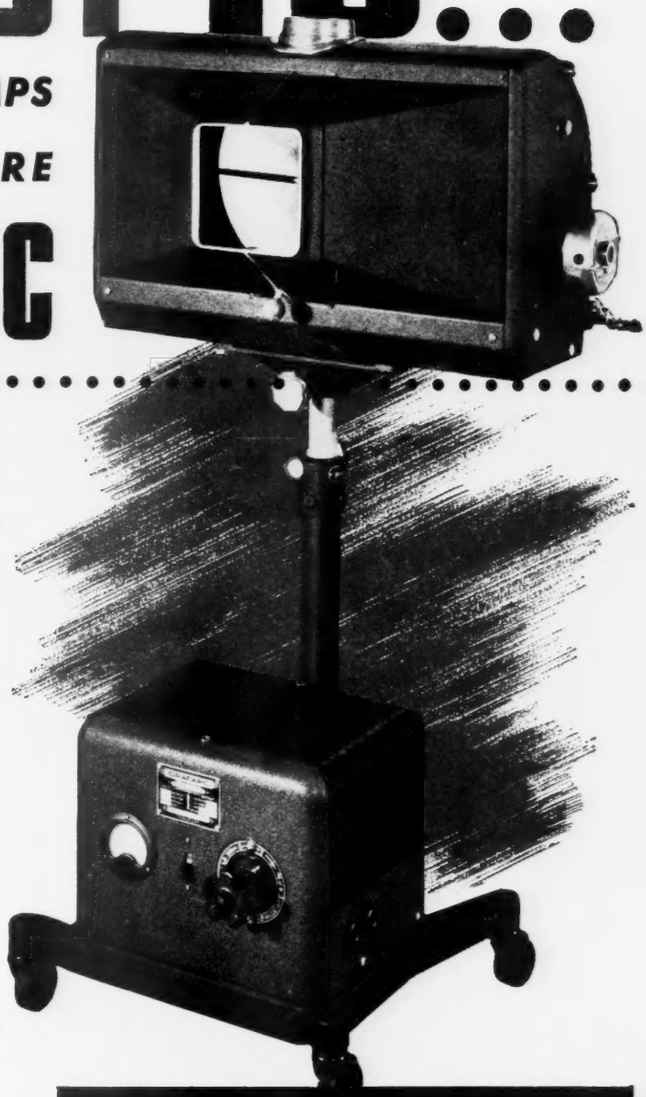

There must be reasons! Here are a few:

★ *RUGGED CONSTRUCTION.* Oversize carriage slide bearings. Large ball bearing motor. Bakelite gears on hardened steel worms. Heavy gauge sheet metal and aluminum cast housing.

★ *MODERN SILVERED GLASS REFLECTOR.* The higher reflectivity of the silvered glass reflector compared to a metal reflector results in approximately twice the light per arc watt.

★ *ARC STEADINESS.* The result of using high intensity carbons in a draft-shielded horizontal trim.

★ *NO VACUUM TUBES OR RELAYS.* The current and voltage of the arc directly control the feed motor speed.

★ *FREEDOM FROM DOT UNDERCUTTING WHEN PRINTING* made possible by the single arc combined with the crossover of the reflected light rays.

★ *MORE EVEN DISTRIBUTION OF LIGHT FOR CAMERA DEPARTMENT.* Uniform illumination on any work size.

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Especially designed models for camera and printing frame. Adapters to fit most cameras. Purchase Grafarc lamps NOW! Start important savings. Reap the benefits of better control and improved standards of workmanship.

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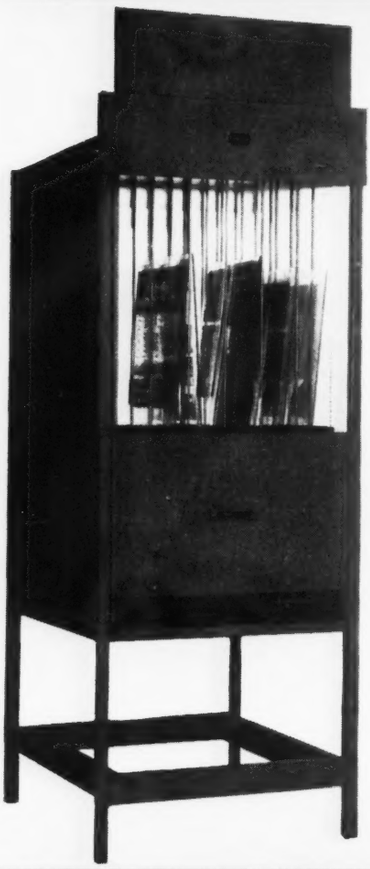


CHEMCO NEGATIVE DRYING OVEN

Users everywhere report much faster production of stripfilm negatives than ever before! It provides rapid, *safe* drying of up to twelve flats at a time, with heating temperature always under positive, perfect control.

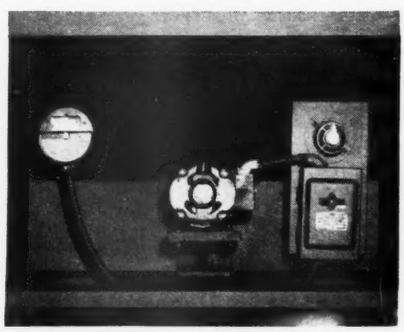
Of the four heating elements, three are controlled manually and one by a mercoid limiting switch which prevents overheating even when all four heating elements are in use. Heat is distributed evenly throughout the oven by a blower operated through a separate wall switch. Heating elements cannot be turned on unless the blower is in operation . . . another precautionary measure to assure complete safety.

The Chemco Negative Drying Oven is of all steel construction, with sliding front doors. Entire oven is completely insulated.

●

FRONT PANEL CONTROL

All controls are placed in front for convenience and easy accessibility.



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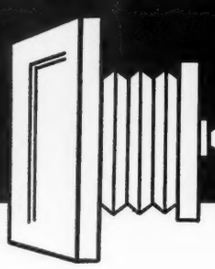
GRAPHIC ARTS EXPOSITION

CHICAGO SEPTEMBER 11-23 1950

CHEMCO PHOTOPRODUCTS COMPANY, INC.

chemco

FACTORY AND GENERAL OFFICES GLEN COVE, NEW YORK



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CHEMCO PHOTOPRODUCTS CO., INC.
GLEN COVE, N. Y.

Gentlemen: I am interested in learning more about your following products:

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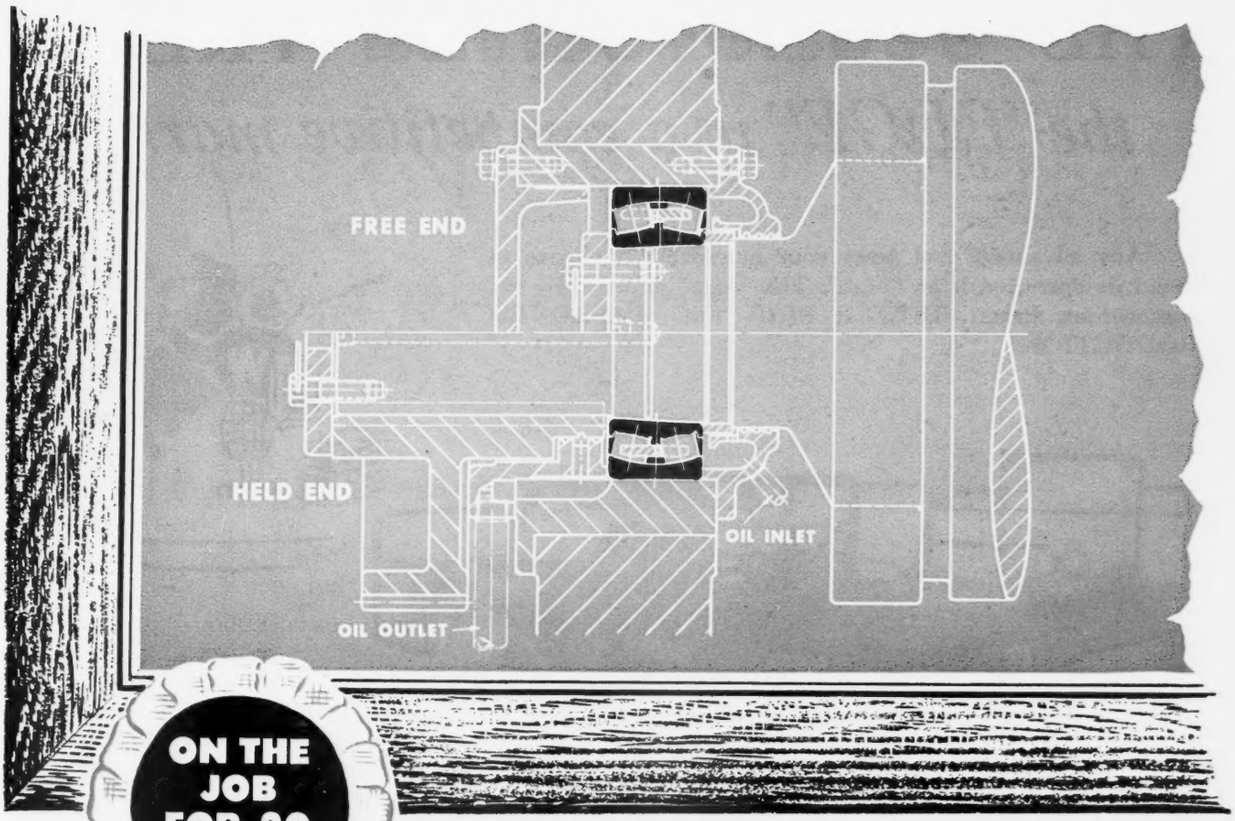
*Name*_____

*Firm Name*_____

*Address*_____

*City*_____ *State*_____



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ON ALL TYPES OF PRINTING PRESSES

The SKF Self-Aligning Printing Cylinder Bearing answers the printing press builder's specifications for a bearing with a "large bore and relatively small outside diameter."

Uniform preload built into each bearing at the factory. No adjustments are necessary if replacement bearings are ever required.

Accurately made. Precision tolerances are applied to important dimensions.

Ease of removal, without damage to bearings is accomplished with SKF's system of hydraulic removal.

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Cool operation. Normal temperature at all times under heavy impression loads. Thereby, undue expansion of the eccentric boxes in the frames is eliminated.

The engineering features of bearing and mounting have resulted in its wide acceptance on . . .

NEWSPAPER PRESSES, black and color units
MAGAZINE PRESSES
METAL AND PAPER OFFSET PRESSES, both sheet and web fed
GRAVURE PRESSES

An SKF Engineer is always at your service to help you secure the right bearing for your job. His advice is sound . . . you'll find it profitable.

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SKF
BALL AND ROLLER BEARINGS

8 REASONS WHY SKF IS PREFERRED BY ALL INDUSTRY

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SURFACE FINISH — PRODUCT UNIFORMITY — ENGINEERING SERVICE — FIELD SERVICE

Pioneers of the Deep Groove Ball Bearing—Spherical Roller Bearing—Self-Aligning Ball Bearing

THE COSMOPOLITAN PRESS...

the "EDGE" in a competitive market

Any advantage that gives your newspaper a chance to expand its operation is an "edge". The "edge" afforded by the Cosmopolitan Press: BETTER PRINTING, IMPROVED PRODUCTION!

The Cosmopolitan Press is erected on its own bedplate, eliminating the pit or under trench. The space required is 23′ x 23′ x 14′ ceiling . . . working room included.

PRINTING . . . The Cosmopolitan Press prints from semi-cylindrical plates, providing printing quality equal to that of the largest dailies. Color facilities have been built into every Cosmopolitan Press as standard equipment. Changeover to color is quick, simple, inexpensive.

PRODUCTION . . . Newspaper production on the Cosmopolitan Press is fast and dependable. These qualities combined with the patented Intrasertor provide a Big City "edge" for the Smaller-City newspaper. The Intrasertor makes 2-page jumps possible on collect runs in one of the sections of a standard size newspaper or 4-page jumps possible in a newspaper of tabloid size.

Only two widths of paper-rolls are needed. All press parts are standard.

IS THE COSMOPOLITAN PRESS A *PROFITABLE* INVESTMENT?

All major improvements in the Cosmopolitan Press have proven themselves on the largest newspaper presses now in use. If you are looking for fast, versatile newspaper production OVER A PERIOD OF *MANY* YEARS, then the Cosmopolitan Press is the wisest investment you can make.

WRITE FOR FURTHER INFORMATION TODAY!

IF IT'S Wood IT'S GOOD

WOOD NEWSPAPER MACHINERY CORPORATION

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Huber's Expanded Ink Service

What it offers you in 1950

$1,400,000 INVESTED IN NEW PLANTS AND MACHINERY

A new, fully equipped ink plant at McCook, Illinois, is the latest addition in Huber's continuing program of expansion and modernization of its ink-making facilities.

Designed to service printing plants from the Rocky Mountains to Ohio and from Minnesota to Louisiana, McCook has joined the new and enlarged Huber plant at Bayonne, N. J., and the plants at Brooklyn and Borger, Texas, to provide you with quality inks from one of the country's leading ink makers.

For this expanded service to users of its news, comic, publication and packaging inks, Huber has invested $1,400,000 in new plants and machinery during the last four years alone.

Huber Plans Today for Printing Tomorrow

This organization is unique with respect to the graphic arts. Huber makes the carbon blacks used in ink, the inks used in printing, and the clays used in paper. Such a related experience is invaluable from a research standpoint.

The Huber ink and paper laboratories, located in Texas, New York, and Georgia, jointly maintain a continuous and intensive research program to analyze and meet the changing needs of the printing industry.

Huber's Technical staff brings to its assignments an unusual fund of related knowledge and experience that comes from working closely with the country's leading printing producers.

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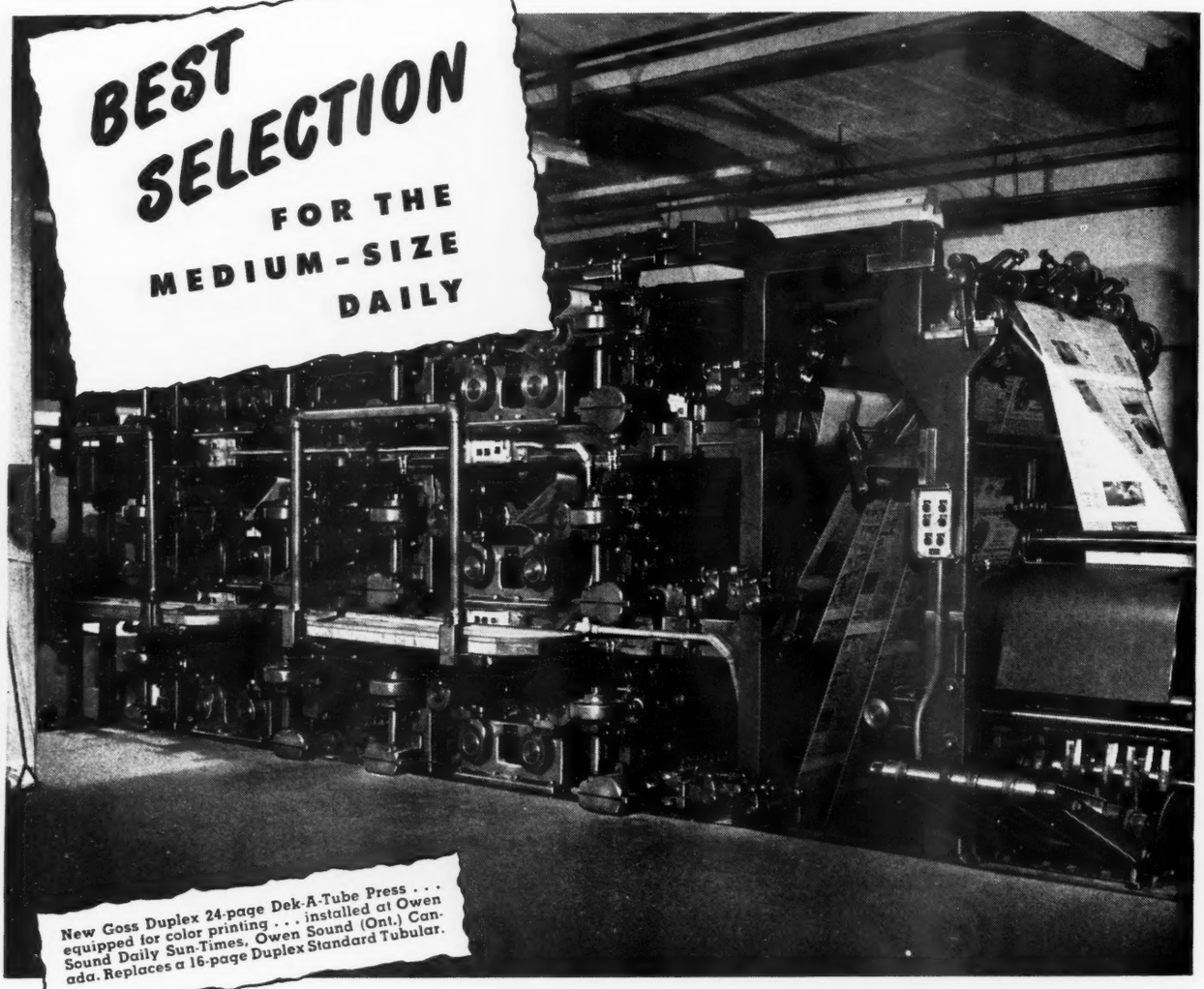
Huber Products HUBER *in Use Since* 1780

Plants: **Bayonne, N. J. • Borger, Texas • Boston, Mass. • Brooklyn, N. Y. • East St. Louis, Ill. • McCook, Ill.**

Sales Offices: **Boston • Brooklyn • Chicago • New York • East St. Louis, Ill.**

BEST SELECTION FOR THE MEDIUM-SIZE DAILY



New Goss Duplex 24-page Dek-A-Tube Press . . . equipped for color printing . . . installed at Owen Sound Daily Sun-Times, Owen Sound (Ont.) Canada. Replaces a 16-page Duplex Standard Tubular.

4 PRESSES—

THE ONLY COMPLETE LINE IN THE MEDIUM-SIZE FIELD

GOSS DUPLEX DEK-A-TUBE

25,000-30,000 papers per hour. Any combination of units up to 48-page capacity with color.

GOSS UNITUBE

30,000 papers per hour. Any combination of units from 8 to 48 pages with color.

GOSS DUPLEX UNITUBULAR

36,000-40,000 papers per hour. Any combination of units from 8 to 48 pages with color.

GOSS UNIVERSAL

36,000-40,000 papers per hour. Any combination of units up to 48 pages straight; 64 pages, collect, with color.

If your circulation is in four or five figures . . . your next press, no doubt, will be a Goss.

The Goss line includes presses to print everything from an 8-page small community paper to the largest metropolitan daily where runs of 96 pages are not unusual. This selection of equipment completely brackets the medium-size and intermediate class papers, offering every publisher a press to meet his individual requirements.

For the medium-size group, there are the advantages of economical tubular press operation—one plate per page . . . two page steps to full capacity—available in a choice of three presses; the Goss Duplex Dek-A-Tube . . . Goss Unitube . . . and Goss Duplex Unitubular. In the intermediate class, there is the Goss Universal—a compact, single width, semi-cylindrical rotary press which provides unlimited flexibility up to a 64-page capacity.

This emphasis on the medium-intermediate group stems from the combined 131 years' experience of the Goss-Duplex organization and the recognition of the special needs of newspapers in the five-figure circulation range. Investigate now, plan ahead for the installation of your new Goss press.

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running time
Old Press 100 Hrs.
New Press 57¼ Hrs.

running time
Old Press 7¾ Hrs.
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running time
Old Press 91 Hrs.
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running time
Old Press 53½ Hrs.
New Press 29¼ Hrs.

running time
Old Press 10 Hrs.
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press sheets will prove it!

There's no question about it. Printers all over the world are profiting from speeded-up production as a result of operating modern Miehle equipment. To learn what this has meant to other printers, examine our portfolio of press sheets and production figures on actual jobs run on *new* Miehle presses. These job histories will prove to you how much more profitable printing can be when you modernize with Miehle.

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EXHIBITOR
GRAPHIC ARTS EXPOSITION
CHICAGO-SEPTEMBER 11-21-1950

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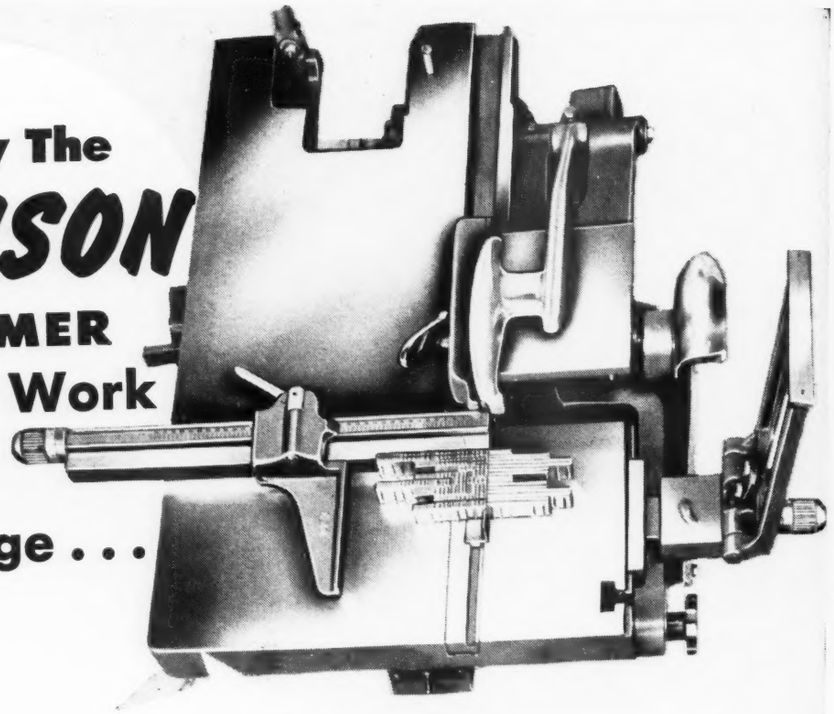
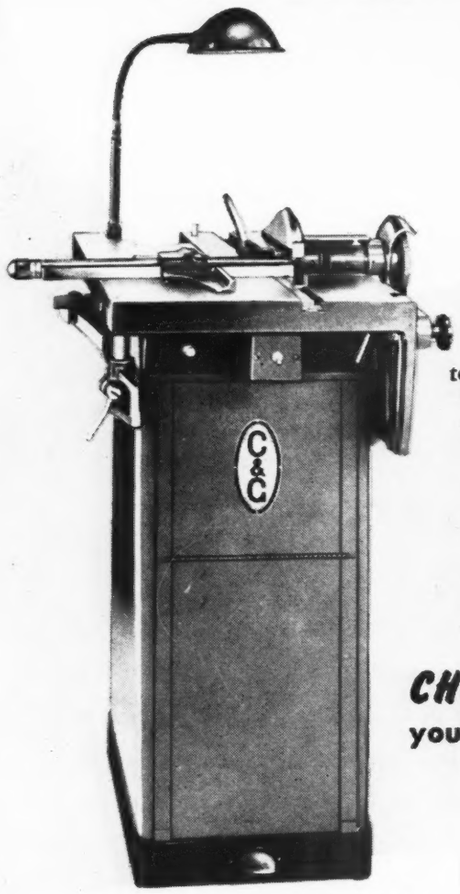
MIEHLE PRINTING PRESS AND MANUFACTURING CO.
World's Largest Manufacturer of Sheet Fed Presses
CHICAGO 8, ILLINOIS

Here's Why The MORRISON SAW TRIMMER Clamps Your Work BEHIND The Gauge . . .





Improved visibility, easier handling, greater accuracy—they're all important when you're trying to cut the corners in time and labor on sawing, trimming, angle or miter work in your composing room. These are some of the advantages of Morrison's radically different method of saw trimming — clamping your work *behind* the gauge, closer to the operator. You, too, will prefer this newer method because it speeds up work and is safer. The pull of the saw blade holds the slugs more compactly, instead of fanning them or causing them to buckle or jump.

See . . . try a new MORRISON SAW TRIMMER. You, too, will agree that it "obsoletes all the others." We'll be glad to tell you the names of users in your vicinity — or send you a descriptive folder "Essential to Composing Room Economy," telling how MORRISON SAW TRIMMERS will save money in your composing room.

MODEL 3-A SAW TRIMMER

Handles an amazing variety of work. Table 30" x 18". Smaller Model 45 with 18" x 27" table has famous "Pistol Grip" for trigger-speed saw blade adjustment.

CHECK — Only Morrison Saw Trimmer gives you ALL these exclusive features:

- Miter Gauge with Point Adjustment
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- Right and Left Hand Mitering — all Miters face up
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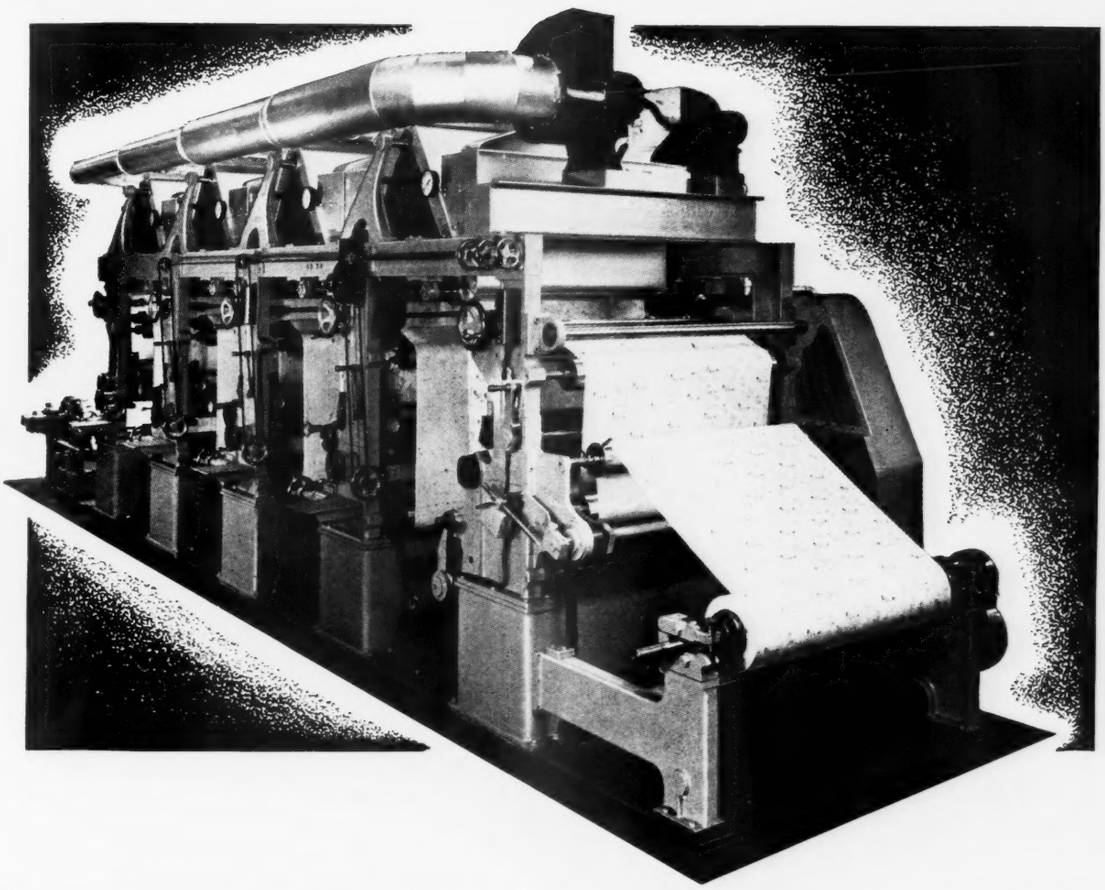

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KLINGROSE "PA" Four Color Multigravure Press

One of five standardized types for every rotogravure press need

The press pictured here is built in web widths of 32″ and 44″ for printing on glassine, cellophane, film, laminated foils and a wide range of papers. Comprises four printing units that will print four colors one side, two colors both sides, or three colors one side and one color the other side, at operating speeds up to 450 feet per minute. This press has pull roll with slitters and center shaft rewind, and rotary sheeter or folder can be added.

ATF-Klingrose presses are made to produce the finest web-fed gravure printing for every requirement. They are equipped with many exclusive features to afford the utmost in speed, accessibility, efficiency, accuracy and economy.

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Everything for the printer in LETTERPRESS, OFFSET, GRAVURE

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With service crews stationed in 19 key cities located from Coast to Coast, Matrix gives immediate attention to processing your present and newly purchased matrices.

The original processing and re-processing can either be done in your plant or in our nearest service branch at any convenient time, day or night, to avoid interference with your regular production schedules . . . and your matrices are cleaned regularly. In this way, reference characters on all your matrices will be kept in perfect condition at all times, assuring greater visibility and less eyestrain.

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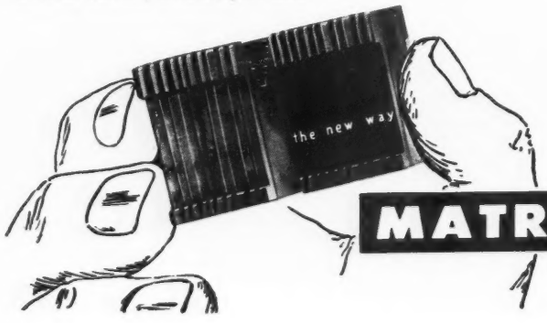
Write or phone our nearest office for the details on the Matrix Contrast Service Continuous Maintenance Plan. MATRIX CONTRAST CORPORATION, 154 West 14th Street, New York 11, N. Y. — 326 W. Madison Street, Chicago 6, Ill. — 1105 Trenton Street, Los Angeles 15, Calif. — Sole licensees of the Percy L. Hill Matrix Contrast Patent No. 1,796,023, other patent pending. European Agents: Funditor, Ltd., 3 Woodbridge Street, Clerkenwell Green, London, E. C. 1.



MATRIX CONTRAST SERVICE

Vacation Suggestion for Graphic Arts Executives

EMPLOYED executives in printing and allied establishments are being urged to so arrange their vacations that they will be enabled to spend the two weeks—September 11-23—in Chicago where the Sixth Educational Graphic Arts Exposition will be held in the International Amphitheatre. The Exposition management is cooperating with the officers and arrangements committees of a number of conventions and other meetings of Graphic Arts groups to increase attendance at their respective gatherings. Members of such groups and other key persons in the industry are being reminded increasingly that the forthcoming Exposition is to be the greatest show ever produced by and for the Graphic Arts.

R&EC Platemaking Meeting

THE needs of the Graphic Arts industry with respect to furnishing better printing plates of all kinds (and inferentially at least) at lower cost were discussed by the Platemaking Section of the Research & Engineering Council of the Graphic Arts Industry in a meeting which was held at Battelle Memorial Institute, Columbus, O., on Thursday, February 16. Approx. 90 people attended. Representatives of printing plant and equipment manufacturer and supplier companies in attendance were from the letterpress, offset-lith, gravure and silk screen printing fields.

Specifically, the purpose of the meeting was (1) To prepare a list of research problems in the platemaking field; (2) Adopt a formula for the structure of platemaking committees to fit in and complete the general organization chart of the Research & Engineering Council; and (3) To secure definite commitments from those present as to their willingness to serve on the photomechanical (letterpress, offset, gravure, silk screen) platemaking committees, and the mechanical (electrotype, stereotype, plastic, molded rubber) platemaking committees.

In the absence of Chairman Frank F. Pfeiffer of Reynolds & Reynolds Co., Dayton, O., J. Homer Winkler, Technical Advisor, Graphic Arts Div. of Battelle, presided.

Consumer Plate Problems

Joseph Chanko, General Manager, Conde' Nast Press, Greenwich, Conn., discussed some of the plate problems facing the consumer. His remarks consisted of a combination of research objectives with the accent upon correlation and cooperation by management of the printing plant, the photoengraver and the electrotyper. He explained that the problems with respect to the making of electrotypes resolve themselves into a procedure of Exploration, Codification and Supervision. He asserted that supervision is the key to all of our problems. He suggested formation of not-too-large a committee, subsidiary to the Research and Engineering Council, composed of 10 electrotypers, 10 photoengravers and 10 printers to meet periodically to consider electrotyping manufacture and use problems. A small committee like the one suggested can do effective work. Eventually, said he, the revised codification of problems together with proper supervision would result in reducing presswork costs. "Some of our juggernaut presses stand idle at intervals because of deficiencies in electrotypes," he said.

Mr. Chanko also discussed proper form preparation for the electrotyper. He mentioned the treatise about to be published by the Intl. Association of Electrotypers and Stereotypers which will contain form lockup standards for the purpose of securing properly made electrotypes. However, he warned that these specifications would not be carried out merely because someone printed a book. Supervision in the plant in the locking of forms for the electrotyper is the only way to get results. "There is no point in printing a book without putting the information into effect," he added.

Interchange of Information

H. Guy Bradley, Production Mgr., Printing Division of Eli Lilly & Co., Indianapolis, Ind., spoke mostly from plant management standpoint in relation to technical problems. With respect to these problems, somebody in every plant does some one thing better than anyone else can do it. He has found this out inasmuch, as like Mr. Chanko, he makes a practice of visiting other plants and he is not ashamed to admit he has picked up many valuable ideas. He discussed a few of his problems and also passed along an idea for patching or revising existing wood-mounted electros. The electros are 0.256 in. thick. In many instances in his plant, an area is to be revised. This is accomplished by mortising out the unwanted area, placing a layer of Scotch tape on the bottom of the patch or piece to be inserted in the mortise. The new patch is shaved down to 0.252 in. thickness, which with the 0.004 in. thickness of the Scotch tape equals the thickness (0.256 in.) of the original electrotype plate.

Electrotype Research

Electrotypers have a number of problems in their own industry. Some of these are related to having its own industry and the consumer adopt certain procedures while others are directly related to pure research and have not yet been solved. C. A. Mawicke of Pontiac Engravers & Electrotypers, Chicago, discussed the problems.

Powdered shoulders should be eliminated in an original photoengraving to permit the electrotyper to produce a plate which will not have a tendency to print the shoulders, provided, of course, it can be done without undercutting in the etching process. If tooling is necessary on an original plate, it should be done in as nearly a perpendicular direction as possible instead of the 45 deg. angle which seems to be the practice in many plants.

Mr. Mawicke asserted that one of the biggest bug-a-boos in the pressroom is cracked electrotypes. He believes part of this difficulty can be eliminated by the use of virgin metal where curved plates are necessary.

Mr. Mawicke quoted from the Montreal 1949 speech of Albert Halstead, jr., of C. B. Cottrell & Sons Co., with refer-

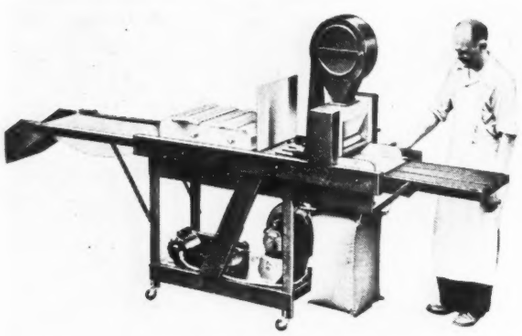
Happy Relations

(Abstracted from an address *General Management Principles* delivered before the 1949 Printing Alumni Reunion at Carnegie Institute of Technology, by Joseph Chanko, General Manager, Condé Nast Press, Greenwich, Conn.)

WE all know, of course, that comfortable working conditions are productive of happy relations with employees and permit workers to concentrate on the all-important thing in our industry—production. Comfortable working conditions include clean work rooms, no overcrowding, ample aisle space, good lighting, clean and adequate toilets and washing facilities, etc. It is remarkable how much one good coat of paint will pep up an entire department. Employees subconsciously waste time when working conditions are not satisfactory. The extent to which an organization carries its welfare programs is a matter of individual decision, but what I have just mentioned is, in my opinion, the minimum for a well managed organization.

Exposition Previews

From time to time, *Printing Equipment Engineer* will publish pre-views of manufacturer and supplier exhibits to be held at the National Graphic Arts Exposition, Chicago's International Amphitheatre, September 11 to 23. Our executive readers can read about proposed exhibits in these previews and make a mental note to call upon exhibitors' representatives when in Chicago.



Model V-12 Virkotype Automatic Process Machine for producing raised printing will be exhibited at the National Graphic Arts Exposition by the Virkotype Corporation.

Virkotype Equipment

A demonstration of equipment used in producing raised printing under actual pressroom conditions will be seen at the exhibit of the Virkotype Corporation, Booth 161, at the National Graphic Arts Exposition, to be held in Chicago's International Amphitheatre, September 11 to 23.

The Virkotype Process is used in the production of raised printing on business cards, letterheads, personal stationery, advertising announcements, match book covers, wedding invitations, booklet covers, box wrappers, greeting cards, calendars and similar items.

A Virkotype Model A-12 Heavy-duty, Automatic Process Machine will be in operation in conjunction with an ATF Little Giant high-speed, cylinder press. On display will be a Model V-12 Virkotype Automatic Process Machine designed for the stationers and job shops. The Model H Hand Process Machine will also be exhibited. The operating display will produce color charts in Virkotype raised printing.

The Virkotype Process is a continuation of regular printing, except that the compounds are mechanically applied to the wet impression and fused by heat to a relief effect.

The Model A-12 accommodates sheets up to 12 in. wide and of any reasonable length. The machine can be hooked up to any automatic printing press or sheets can be hand-fed from presses. Regular type or cuts are used; no dies or plates are required. Virkotype effects may be produced in any color found in printer's ink or in gold, silver or white. Dull effects may also be obtained.

Representatives from the Virkotype Corporation will be at the exhibit to explain the operation of the machines and the procedure followed in the Virkotype process.

ence to the wear and cracking of plates during a press run. Mr. Halstead pointed out that "At a press running speed of 1000 f.p.m., a ¼ in. thick electrotype plate will have a centrifugal throw of approx. 1000 lbs., and it is expected to lie smoothly on the cylinder in spite of this throw. At this speed a reduction in weight of 50% would allow an increase in speed of 50%, if other conditions are equal. What we need is a plate that will stay put on the cylinder at practically any rotation speed without working up and down or back and forth."

Another thought expressed by Mr. Mawicke is that producers of electrotype backing metal should do some research and produce a backing metal of lighter weight and greater stability and strength, and one which will withstand the wear and tear of plate hooks on the bevel edge.

Other problems in the electrotyping industry were listed by the speaker. One of these is in the making of curved plates when a mottling or orange peel effect is obtained on curved plates especially in large solid printing areas where the bend is short. He asked: "Should electrotypes be curved cold or should they be curved hot?"

Mawicke, in the concluding part of his address, stated: "It has been the dream of the electrotyping industry in the past decade to produce a lighter weight printing plate. Our industry has seen some experimental samples but to date they have not been made commercially available."

Photoengraving Research Problems

Gene C. Meston, President of Photo-Engravers Research, Inc., a voluntary research organization set up from among photoengraving plants throughout the country, described the work of his organization and presented a list of 24 problems which should be the subject of scientific research.

He said: "One of the basic problems facing the photoengraving industry is that of decreasing the cost of production and of developing a process for making photoengravings in considerably less time than is now possible. There is definitely room for improvement in the quality of photoengraving."

Mr. Meston also stated that it should be possible to standardize a lot of the procedures now being used in the photoengraving industry.

Among the specific problems in addition to those he gave as now being worked upon by Photo-Engravers Research, Inc. at Battelle Memorial Institute, are (1) An inexpensive and rapid method of making screens suitable for use in the production of negatives or positives; (2) A photosensitive material that can be coated on photoengravers metal sheets that would be suitable for direct exposure in the camera would eliminate the photo-printing operation; (3) Masking methods free from register problems; (4) A stable developer for satisfactory high contrast; (5) A simpler and inexpensive method of controlling the humidity range during photo-printing operation; (6) Development of an improved, reliable, uniform and higher intensity light source; (7) Development of a top that may be used on all photoengraving metals and will develop easily under conditions of high humidity; (8) Development of an improved etching procedure that permits straight down etching without any sidewall etching and the resultant image area loss; (9) An electrolytic process of etching suitable for zinc and magnesium; (10) improved sidewall protection techniques for use during etching; (11) a substitute for frisketing.[1]

Stereotyping Research

George Fuller, Stereotype Supt. of the Cleveland *Press* greeted his listeners with the remark, "I didn't know you gentlemen in the commercial section of the printing industry had any technical problems. I find that you are discussing your problems in the equivalent manner to which we discuss them at some of the newspaper mechanical conferences." Mr.

[1]During a subsequent discussion as to whether or not dead metal and bearers should be left in the plate, a sort of round table discussion occurred. It seemed that the majority of those entering into the discussion felt the dead metal should be left in originals for duplicate platemaking production. Technical Director Wade Griswold of LTF arose to ask Dr. M. C. Rogers of R. R. Donnelley & Sons Co. if a substitute for frisketing hadn't been developed in his plant. Dr. Rogers credited one of the employees with the idea of providing a "water-loving" surface on dead metal areas to make them non-ink receptive, on the same principle upon which lithography is based. Dr. Rogers stated that the idea had not been developed as yet.

Fuller stated that he knew of no more fertile field for research than in the stereotype section of the newspaper printing industry.

Among the needs for the newspaper stereotyping field, he stated a mat is needed that will give truer reproduction and that will hold depth and one that will have a better affinity for stereotype metal so as to obtain a smoother and sharper cast in the printing face of the plate. This should be done either with a mat itself or by the use of a facing on the mat.

He stated there is a definite need for a mat which will require no packing in the open spaces. There is a need for determination of proper molding methods both by roller and direct pressure. There should be some way of determining the amount of printing area in the form—(this observation was made with respect to open and closed pages)—so as to be able to determine the amount of pressure needed for molding of the mat. Research is needed for proper molding blankets for both direct pressure and mat roller methods of molding. One of the problems in mat molding is to iron out the solids so that on the curved plate they will be at the same printing level as the type matter in the plate.

Determination should be arrived at as to what takes place on the stereotype curved plate or on the mat when different shrinkages are used. In other words, it ap ears that mats with ½ in. and ⅝ in. shrinkage print plainer and sharper than mats with 1 in. shrinkage.

Magnesium Engraving

Charles Wilhelm of Lincoln Photo-Engraving Co., Philadelphia, gave a rather optimistic report concerning the manufacture and use of magnesium photoengravings.

With direct reference to some of the features of magnesium platemaking which need further investigation, Mr. Wilhelm said, "the finishing and routing of magnesium plates give the photo-engraver the most trouble because magnesium is brittle, it cannot be pushed around by a finisher as with copper or zinc." Mr. Wilhelm stated also that with respect to plate alteration or repair, solder and magnesium will not fuse and to date there is no substitute for solder to solve this vexing problem with magnesium. He stated that it was fortunate that the speed with which a magnesium makeover can be turned out helps to lessen the solder handicap.

Mr. Wilhelm mentioned that the corrosion problem, especially with respect to gold stamping dies which have been put in storage for later use, is still present.

Plastic Plate Research

Gene Williamson of Williamson & Co., Caldwell, N. J., discussed the production of plastic printing plates. He enumerated the advantages and some of the faults occurring in the present method of making the plate. Actually, plastic plates are duplicate plates in which a matrix is molded from thermosetting resin on the form and subsequently, a thermoplastic plate is molded from the matrix itself. He stated that while Bakelite Corporation had done some constructive work toward improving the coating on the material from which the matrix is formed, a great deal of further work would be necessary if this problem of picking is to be eliminated. That is, in the process of producing a plate, there is a very critical weakness which can only be overcome permanently by improving the surface of the matrix sheet to prevent the picking when the finished thermoplastic plate is released from the thermosetting mold.

Mr. Williamson stated that the second problem is how to make plates faster and more economically. At present, about 12 min. are required to produce a matrix and from 5 to 6 min. to make a plate from the matrix. He observed that the installation of high frequency pre-heaters will reduce the molding cycle in both phases of the process by at least 50 per cent. "In fact," said he, "one platemolding plant is already using a high frequency heater to very good advantage."

The third problem is to develop a more durable curved plastic plate for high speed rotary presses.

Rubber Platemaking Problems

Siegfried Higgins of the Bakelite Division of Union Carbide and Carbon Co., stated that one of the drawbacks in rubber plates is the inability of the plate to retain dots on plates where the half-

(*Continued on Page 56*)

Exhibit Spaces for ANPA Mechanical Conference

Just before going to press with the March issue, 41 manufacturer and/or supplier firms have engaged 77 booths for the ANPA Mechanical Conference to be held at Hotel Statler, Buffalo, N. Y., on June 12, 13 and 14.

A limited number of unengaged booths remain. If any manufacturer and/or supplier wishes to exhibit his products at the forthcoming ANPA Mechanical Conference, please write PRINTING EQUIPMENT *Engineer*, 1276 West Third St., Cleveland 13, O. The companies already engaging exhibition space together with their booth numbers are as follows:

Exhibitor	Booth No.
American Steel Chase Co.	28
American Type Founders	67, 68, 69, 70, 71
Beard Newsprint & Warehouse Co.	72
Bourges, Inc.	50, 51
Chemco Photoproducts Co.	4, 5, 6
Consolidated Photoengravers & Lithographers Equipment Co.	39, 40, 41, 42
Coxhead, Ralph M., Corp.	77
Dick Mailer, The	86
DoALL Co., The	31
Eastern Graphic Arts Supply Co.	85
Fairchild Camera & Instrument Corp.	19
Federated Metals Div. American Smelting & Refining Co.	57, 58
Gaebel, Arthur H., Inc.	18
Hammond Machinery Builders	55, 56, 65, 66
Imperial Type Metal Co.	14, 15
Lake Erie Engineering Corp.	83, 84
Linotype Parts Co.	20, 21
Ludlow Typograph Co.	48, 49
Mark Specialty Co.	59
Minnesota Mining & Manufacturing Co.	61
Monomelt Co., Inc., The	30
Morrison Co., Inc., The	80, 81, 82
National Lead Co.	25, 26, 27
Nolan Corporation	45, 46, 47
Pitman, Harold M. Co.	76
PRINTING EQUIPMENT *Engineer*	22
Reilly Electrotype Co.	1, 2, 3
Reppenhagen, Frank A., Inc. Sales Representatives, The Moreland Corp.	29
Richards Co., J. A.	37, 38
Robertson, R. R. Co.	78, 79
Rolled Plate Metal Co.	43, 44
Rouse, H. B., & Co.	75
Sta-Hi Corp.	16, 17
Stereotex Machinery Co.	36
Teaneck Chemical Co., Inc.	35
Teletypesetter Corporation	62, 63
Tingue, Brown & Co.	34
United American Metals Corp.	7, 8
Vandercook & Sons, Inc.	52, 53, 54
Western Newspaper Union	9, 10
Wood Newspaper Machinery Corp.	23, 24

Anti-Offset Spray on Printing Presses at Eli Lilly & Co's Indianapolis Plant

By H. GUY BRADLEY*

**Production Manager, Printing Div., Eli Lilly & Co., Indianapolis, Ind.*

A MODIFIED arrangement of dry spray equipment on presses in the Printing Division plant of Eli Lilly & Co., Indianapolis pharmaceutical firm, not only continues elimination of the offset bugaboo as before making the equipment modifications, but we also feel it has improved working conditions in the pressroom.

When the offset spray was first introduced to the printing industry, it, like a number of other helps for printers, was hailed as the solution to all offset problems.

However, as it came into general use, a number of other problems developed which tended to depreciate the value of the spray.

At this point it is only fair to state that since then the equipment has been refined and pressmen have learned how to handle it to obtain maximum performance. Some of the complaints regarding spray equipment came principally from pressrooms in which a number of presses are operated, and where ventilating conditions were not the best.

Originally, the liquid was sprayed on the sheet from a height of several feet. To cover the entire sheet area, too much solution and too much air pressure were used. This resulted in a part of the solids from the mixture floating in the pressroom atmosphere. The presses became coated with the particles, and the workers breathed the mixture. While the solids were harmless in themselves, the dust caused more or less discomfort.

Any excess of particles caused a roughness in the printing which nobody liked. If the nozzle became clogged, lack of spray caused sticking in the pile. If too much spray was applied at one end of the sheet, the lift in the jogger would be thick at that side.

The folders and stitchers accumulated the dust which would scratch the work. On cartons, the build-up on the gluers would mark them.

When the dry sprays first appeared, some users thought they were better and others worse, due to the amount of powder used and the particles floating in the air. Happily, however, operating conditions, too, have improved with experience.

Daily Goes to Work on Modification

Anyhow, anyone who knows about the Eli Lilly Co. is aware of the fact that its continued success in the field of medicine is due to constant research. This awareness of the value of research permeates the entire organization. We have studied offset spray equipment for some time. Lilly pressmen under the supervision and with the personal interest of Supervisor Edward R. Daily, tested and retested spray equipment, and came up with valuable ideas. In our case, frequent modifications were made to meet specific printing problems. On account of the nature of the work we do, our problems don't exist in every plant.

After a great deal of work, one of the tubes of a well-known dry spray was mounted along the top edge of the back jogger board of a press so it would spray at right angles to the board. A tube was also mounted on the front jogger board. These tubes spray at right angles to the boards and on top of the pile in the delivery. This means that on a 28 in. by 42 in. sheet, each tube covers 14 in. By proper timing, the sheet in the delivery is sprayed, and before the powder can rise, the sheet which has just been delivered falls on top of it and traps the powder.

Pressures Reduced 50%

We have reduced the powder quantity and air pressure at least 50%. In addition, the delay in spraying, after the sheet is delivered, tends to set the ink.

After running a sheet twice through a two-color press at 2500 per hour, it is difficult to detect that it has been sprayed. This is a great aid to processing sheets which are to be varnished.

The Lilly modification was planned, tested and installed by printing division employees. Company shops and the electrical division cooperated in the technical problems. Installation required one day per press.

Each pair of dry spray bars is equipped with a separate activating attachment on a wall near the press.

A central air compressor supplies each activating unit with air under pressure of 50 lbs. per sq. in. This pressurized air is dehydrated to keep the powder from clogging the equipment.

After the air is dried, the pressure is dropped to 2 lbs. per sq. in. and it enters the spray mixing chamber through a T-jet nozzle. The special powder is metered into the chamber and is swirled by the air out of the mixing cell into a tube leading to the delivery bars on the press.

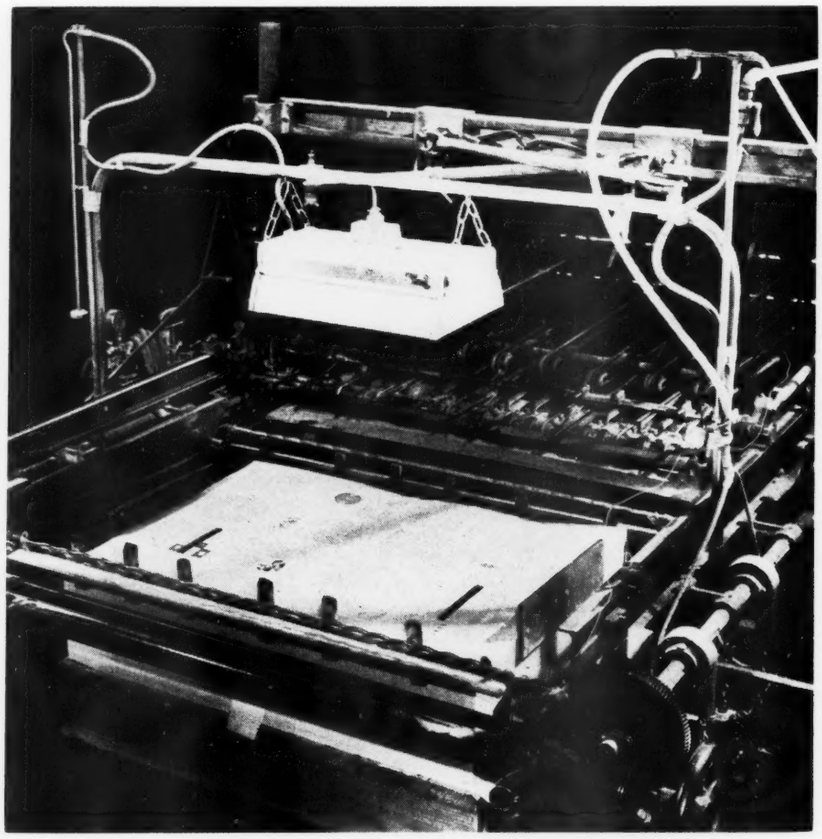


Fig. 1.—The wave-shaped delivery bars of the dry spray anti-offset unit area parallel to each other on the front and back gates of the jogger box on a Miehle No. 46 press at Eli Lilly & Co.'s printing department in Indianapolis. The single overhead tubing feeds powder-air mixture to the bars through a simple Y-joint arrangement at the right side of the jogger box. Anti-offset powder is forced through the $\frac{3}{8}$ in. rubber tube under 2 lbs. per sq. in. pressure from the activating unit (Fig. 2) on a nearby wall.

Y Joint Feeds Delivery Tubes

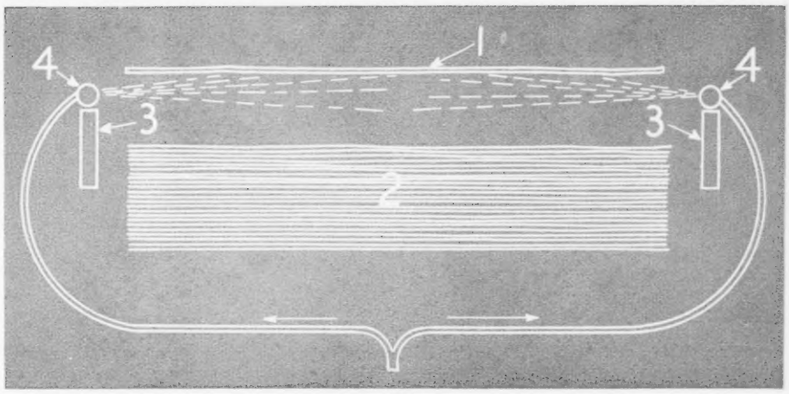
The dry spray is carried in $^3/_8$ in. rubber tubing to an overhead arm on the press. Above the jogger box, the tubing is fastened to a Y-joint from which the tubing leads to the wave-shaped delivery tubes at the front and back jogger box boards.

When the press is operating, the dry spray is emitted continuously from both tubes. The flow is shut off automatically through a solenoid on the kick shutoff of the press. When the kickoff trips as the press stops, the dry spray unit is closed off.

The spray bar attached to the front jogger board is set with the openings pointing upwardly at a 10 deg. angle. The bar on the back jogger gate also points across the freshly-printed sheet at a 10 deg. tilt.

Because of the angle settings, the fine spray meets in the center part of the jogger box and settles gently upon each sheet. Very little powder falls outside the box and only a half-pint of the spray passes completely through the bar into an overflow can per 8 hr. day.

In the double bar arrangement, both tubes are stationary on the jogger boards. In the single bar system, the wavy steel tube rides on the back side of the gas heater. The flame heater is used with the spray unit primarily to eliminate static electricity in the paper.



Diagrammatic representation of dry powder anti-offset spray installed on a Miehle 46 two-color letterpress in Eli Lilly & Co.'s Indianapolis (Ind.) printing plant. A mixture of fine powder and air is delivered under 2 lbs. pressure. In this diagram *1* represents a printed sheet just after being released by the press delivery and before it has settled down upon the printed sheets in the stack *2*. The front and back jogger boards are indicated at *3*. Fastened to the jogger boards are perforated spray tubes *4* taken from a well known equipment. The spray mixture is emitted for a distance of 14 in. toward the center of the sheet. As the sheet falls upon the stack, it traps the spray particles. The tubes *4*, as will be seen, are fed from $^3/_8$ in. rubber tubing which in turn are connected to a Y joint.

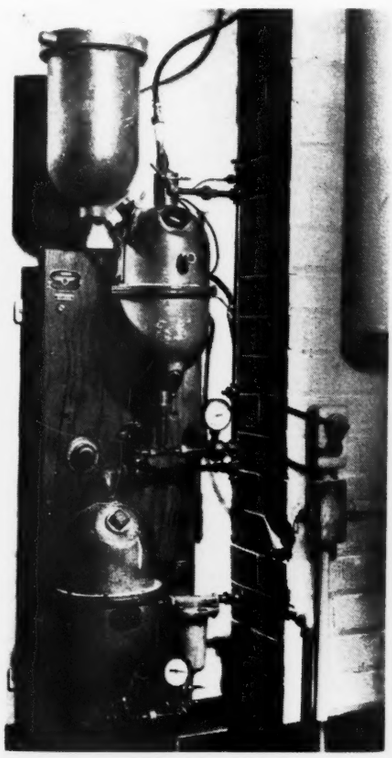


Fig. 2.—Air enters the anti-offset spray wall activating unit under pressure of 50 lbs. per sq. in. supplied by a special compressor. The bottom chamber dehydrates the air under the high pressure and moves it through a regulator valve which reduces the pressure to 2 lbs. per sq. in. A T-jet in the center chamber mixes the anti-offset powder with the dry air. The spray mixture is carried through a $^3/_8$ in. rubber tube to the press. The top chamber serves as a powder reservoir and may feed into the mixing chamber without stopping the unit.

Life of Tubes

The Lilly-devised system provides uniform stacking in the jogger box—an important factor when many jobs must have six press runs.

Wear of the activating equipment is negligible. Spray bars may have to be replaced infrequently. The Lilly presses operate 24 hrs. a day and the delivery tubes have been found to have a two-year life.

Constant spraying tends to cause erosion of the pin-point holes on the spray bars. The tiny holes, so small a needle cannot be forced into the opening, eventually wear out through this erosion. Two inches apart on the bars, the spray points seldom become clogged with powder.

The powder used in the spray equipment is extremely fine and soft. Lilly chemists who analyzed the powder found it has a rice flour base.

During a press run, the dry spray is atomized to such a degree that the pressman may hold his hand over the jogger box nearly a minute in the spray before a trace of the powder appears.

The Lilly double bar adaption is inexpensive to place in operation. The extra spray bar is the chief expense. A few feet of rubber tubing and a Y-joint are the only other expenses, aside from labor.

The double bars are now in operation on two Miehle No. 46 two-color presses and soon will be applied to three single Miehles (No. 1, No. 00, and No. 3), and two Kelly No. 2s.

On a Miehle Vertical press we came up through the press with the $^3/_8$ in. tubing and mounted the spray tube so it will spray parallel to the delivered sheet but away from the press. The sheet immediately next delivered traps the powder particles before they can rise.

Teaching Ability

Abstracted from address delivered before convention of National Association of Photo-Lithographers, Hotel Statler, New York, N. Y., October 1949, by Frank A. Myers, Treasurer, Copifyer Lithograph Corp., Cleveland.

HOW often we promote a good craftsman to foremanship, and then find out he can't teach. He is skilled and knows his stuff. But he can't pass it on to others. So he tries to do everything himself—because he can do it better. "I showed the guy how to do it, but he's too dumb to learn. I haven't got time to teach."

Our foremen spend a lot of time teaching. A foreman who is a good teacher can pass on his skill and knowledge to others and thus multiply his efforts. The only way to be "three guys at once" is to train two other guys. The best way to get additional skilled employees is to train them in your own plant. If your supervisors are good teachers they won't have to do so much correcting and disciplining. Mistakes mostly come from lack of interest or lack of knowledge. The best remedy for mistakes is skilled teaching.

You don't have to be a "born teacher." The art of teaching can be learned. After taking instructor training our foremen were quite surprised. Some of their apprentices weren't so dumb after all. They learned fast enough when the foreman learned how to teach.

Fig. 1.—In this illustration is shown Designer Harold Fleming before the 30 in. by 40 in. copy frame of the photomechanical process camera which bears his name. Mr. Fleming is a camera operator in the plant of the Photo-Process Engraving Co., Atlanta, Ga. The camera is of the darkroom type and is intended for use by photoengravers, offset-lith and gravure platemakers. Features of the camera are discussed in the accompanying article.

The Fleming Process Camera

By JOHN T. WRIGLEY, Sr.*

**Technician, Photo-Process Engraving Co., Atlanta, Ga.*

IT IS not uncommon to hear a craftsman make a few suggestions as to how the equipment he is using could be improved. Not too often, however, do we hear of one actually doing anything to remedy such a situation. This article is about one who did and the process camera he designed.

Harold Fleming, a camera operator for the Photo-Process Engraving Co., Atlanta, Ga., is the designer of the process camera that bears his name. He is the type of craftsman who is constantly seeking ways and means to improve the equipment and materials for making line, halftone and combination line and halftone negatives of quality in a rapid and convenient operating manner.

The Fleming Process Camera is designed for general negative making for photoengraving, offset-lithography or gravure, for line, halftone, combination line and halftone and continuous tone work.

After Fleming had gotten his camera design well under way, it was not a difficult matter to interest his employer, George T. Linnen, President of Photo-Process, in the possibilities of his project. Construction of the first Fleming Process Camera began early in 1949. This camera has been in daily use in the Photo-Process plant for several months.

The Fleming Process Camera is an all metal, darkroom type camera that is built for practically automatic operating. Features include, automatic return of the halftone screen to separation position after displacement for line negative making; constant alignment of screen on all four corners; quick setting of screen separation with each screen change; safety type screen holding bars; a vacuum film back, and the elimination of three conventional manual operations through built-in controls and eye-level operating at the major operating points.

The Fleming camera proper is constructed of one piece of heavy, die pressed aluminum and steel, in which the operating mechanism is housed. This section is aligned flush with the inside wall of the darkroom. The vacuum back is fitted into an opening in the flat aluminum back plate. The camera stand, or front section, is constructed of steel and cast iron.

Automatic Screen Alignment

The screen separation mechanism is constructed so that it is practically impossible for the screen to get out of alignment. This is assured by the single point screen separation setting mechanism which automatically sets all four corners of the screen simultaneously through a connecting micrometer adjustment. The screen separation is set by turning a small handle located next to the separation indicator at eye-level.

On the Fleming camera, the halftone screen automatically positions itself. The screen is raised and lowered by electric control and automatically brought to a constant plane alignment, proper to the particular screen being used. When the separation distance for the screen in use has been established, the operator may dismiss the matter of further setting until he changes to another screen.

Control for Three Operations

When making a line or halftone, or a combination line and halftone negative on the Fleming Process Camera, the three operations of setting the compensator, raising or lowering the screen, and positioning the screen to its proper screen separation position, are reduced to one operation. One turn of a control handle performs these three operations automatically.

On the Fleming camera, for example, to prepare the camera for making a line negative, the operator turns the control handle located at the lens. The screen instantly moves down, out of shooting position and the compensator moves into position. To make a halftone negative, a turn of the same control moves the screen up, into exact screen separation position and simultaneously moves the compen-

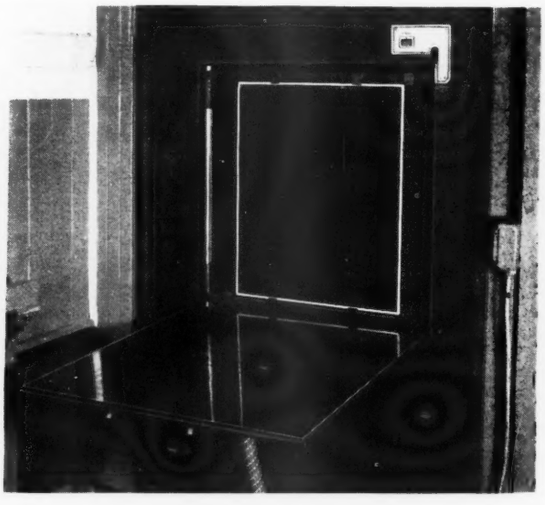


Fig. 2.—In this illustration is shown the darkroom end of the Fleming process camera. The Micarta vacuum plate for holding sheet film is hinged to an aluminum plate at the bottom. The back is provided with an air cylinder support to provide cushion against sudden shock if the back should be permitted to drop.

sator away from the lens. This establishes an absolute register between line and halftone in making combination negatives and line and halftone color plates.

As insurance against screen damage caused by poorly fitted or designed screen bars, Mr. Fleming has designed a set of screen bars that cannot slip or drop when unlocked for screen insertion or removal. The Fleming camera screen bars are strong and fitted for smooth and free movement for both rectangular and circular screens.

The surface material of the vacuum plate or back, is Micarta. Micarta has proved satisfactory for this purpose because its glossy blackness and smooth finish adds to the effective vacuum. It also provides a corrosive proof finish.

Shock Proof Vacuum Back

The Micarta vacuum plate (Fig. 2) for holding sheet film on the Fleming camera is hinged to the aluminum plate at the bottom. It has an air cylinder support which provides a cushion against sudden shock if the back is allowed to drop. This is an insurance against the vacuum back getting out of alignment or focal plane, or falling entirely off the camera. The vacuum back on the Fleming camera is wired to start and stop the vacuum pump motor upon raising or lowering the vacuum back.

Focusing Scale and Diaphragm Control

The focusing scale on the Fleming camera is the percentage type, permanently fastened to the camera stand. It is accurately calibrated and easy to read from the normal position.

The diaphragm control corresponds to the focusing scale and is extended several inches from the lens barrel. This provides more space between the aperture markings and ease in setting the diaphragm from a standing position at the side of his camera. The diaphragm setting hairline is engraved on the clear plastic end of the diaphragm control arm.

The camera stand is constructed of four heavy steel rails, connected by four cast iron supports. Each of the supporting legs rests on dual purpose mounts. These mounts take up vibration and serve as leveling adjustments. The ends of the rails of the stand assembly are fastened to the camera proper by four adjustable bolts.

The 30 in. by 40 in. copy frame is constructed of medium gauge square steel tubing. The glass is a sheet of flawless plate having a high degree of transparency. The copy board is a Micarta-covered, sponge rubber sheet mounted on moisture-proofed laminated wood. The glass is raised by pressing up on either of the knobs. The glass frame is hinged with heavy type spring hinges.

A heavy cast iron frame, riding on rollers, supports the cop frame and smooth surfaced copy shelf.

The camera front section and the copy frame are moved to focusing position by hand wheels.

The entire camera is finished in permanent baked-on krinkle finish enamel.

In Fig. 1, may be seen one of the two Graf-Arc camera lamps. Its stand is connected with the copy frame structure. This provides a means of moving the camera arcs back and forth with the movement of the camera front section automatically. The framing has adjustments for placing the lamps closer to the copy if desired. However, the standard position has been found satisfactory for all types of light coverage requirement.

Photogelatine

The Screenless Printing Process

(Summary of an address delivered by Walter Fredrick and Thomas D. Hook before the Cleveland Club of Printing House Craftsmen, February 1950. Mr. Fredrick is President of the Fredrick Photogelatine Press, Inc., New York, N. Y.; Mr. Hook is Vice President and Sales Manager, Black Box Photo & Collotype Studio, Inc., Chicago, Ill.)

PHOTOGELATINE, or Collotype printing, is one of the oldest reproduction processes. The primary characteristic of a Collotype (or Photogelatine) printing plate is that it is screenless (continuous tone), without halftone dots of any kind. The process fits into the job where the press run is short and the reproduction is large (up to 41 in. by 62 in.).

Collotype printing can be used in the reproduction of oil paintings, picture post cards, greeting cards, pencil sketches, architectural renderings, calendars, sales catalogs, murals, show and window cards, wall hangers, and is suited for test runs of material used in advertising campaigns to show to the distributor or salesman before it is produced on a quantity basis. This type of printing is designed for press runs of from 100 up to about 5000, in one color or full color.

The preparation of copy for reproduction is similar to the preparation required for the offset process. Photographs should be soft, full toned and not have too much contrast. Negatives must be made in the right density to fit the gelatine plate and also must have high uniformity. Art work can be prepared in black even if its to be a four color job with color overlays. A set of full color separation negatives can be made from colored copy, the same as are used for photoengraving, but with no screen. Or, from colored copy, one master negative can be made. This can be hand separated and yellow, red, blue and black overlays can be made from the one negative.

Retouching and Layout

The most delicate retouching is done by a needle point pencil and by stump with French crayon. This is the hardest way to do it, but it gives the best results and makes it possible to create facsimile reproductions. Dyes may also be employed for retouching purposes. This step is very important because whatever is put into the negative will be transferred to the plate. Once it is on the plate, nothing can be taken entirely out, or anything new cannot be added.

The retouched negative next goes into the layout department and is stripped on masking paper, right side up. All negatives and type matter are mounted face up because they appear reverse on the printing plate. Inasmuch as collotype is a direct printing process, the impression is taken by direct contact to the paper.

Making the Plate

Successful printing with respect to quality and quantity is entirely dependent upon the plate itself. In coating a plate, the correct amount of gelatine, bichromate of potassium and bichromate of ammonium are mixed. The quality of the printing plate is controlled by adding the correct proportion of the bichromates to the gelatine at a certain temperature. This control also applies to the amount of water used when dissolving the chemicals and to the cooking at the right temperature. The formula may be overheated and result in a sticky plate, or underheated and result in a soft plate.

The gelatine is dissolved in a double boiler and heating with the proper amount of water. Gelatine begins to dissolve at 108 deg. F. The two bichromates (dissolved) are added to the gelatine and water at approx. 120 deg. F. This solution is cooked until it reaches about 150 deg. F. The solution is next run through a centrifuge to purify the gelatine and remove all extraneous matter such as fat.

The plate is clamped in a vertical whirler and the solution poured on the plate while in motion. The electrically heated whirler is closed and remains in motion for about 25 min. A fan exhausts all moisture from the whirler as the plate is drying.

Exposing the Negative

The masked negative is placed in the vacuum frame and the sensitized photogelatine plate is brought into contact with the negative and both are exposed to arc lights. The following action takes place. When the negative is exposed, the clear parts of the image on the negative are translated into shadow areas on the positive plate. Due to the action of the light rays, hardening of the gelatine takes place over the entire printing image.

(*Continued on Page 58*)

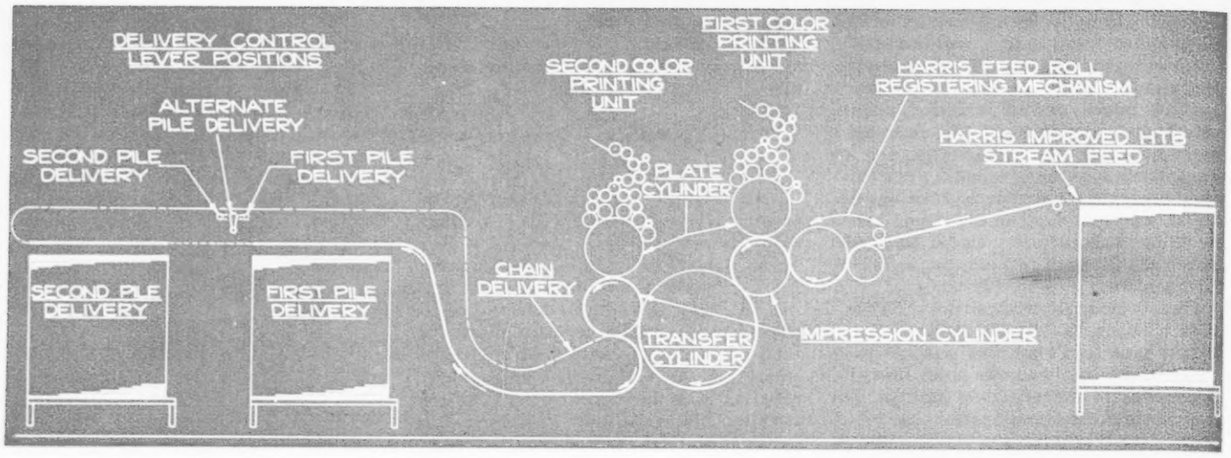


Fig. 1.—This side elevation diagram is illustrative of the path taken by the sheet (heavy lines) through the Harris TRG, 45 in. by 65 in two-color rotary letterpress. Press prints from curved electros.

Double Delivery is a Feature of Harris Rotary Letterpress

HARRIS-SEYBOLD CO. recently announced design and manufacture of its TRG 45 in. by 65 in. two-color rotary letterpress. According to General Sales Manager Ren R. Perry, more than 20 of them have been purchased within the past year by firms in the magazine, carton, mail-order and label printing fields.

IRVING F. NILES
Engineer in Charge of Letterpress Development, Harris-Seybold Co., and designer of the TRG Rotary Letterpress described and illustrated in this article.

Among the features of the new Harris Two-Color Rotary Letterpress is a double delivery system, which provides alternate delivery to two piles, or delivery to a single pile. This permits a full skid of printed sheets to be removed while sheets are being delivered to the other pile.

In order to get a detailed story on the double delivery system and other press features, *Printing Equipment Engineer* interviewed Irving F. Niles, Engineer in Charge of Letterpress Development for Harris-Seybold. Mr. Niles, who supervised design of the press, supplied the information and drawings which illustrate this article.

According to Niles, the idea of a double delivery is not entirely new, having appeared on several types of presses in the past. But as far as he can recall, it has not been used on any press made in the past 15 years.

There are two advantages to a double delivery system. When the sheets feed alternately to different piles, longer drying time for each sheet is possible, making it less likely that an image will be offset when a fresh sheet is piled on top of a damp one. "This," said Mr. Niles, "is important in a high speed press such as the TRG, which will print at speeds ranging up to 6000 sheets per hour under proper conditions.

"The other advantage," he continued, "will be of value to the carton-printing industry. The press can be set to deliver to the first or second pile only. In this way, when one pile fills up, it can be emptied without stopping the press. Thus, in printing heavy stock, which builds a pile up quickly, excessive down time for pile removal is eliminated."

Let's listen as Mr. Niles describes operating characteristics of the press whose development he guided:

"The TRG is a two-color machine, printing from curved electros. We began designing the machine with two ob-

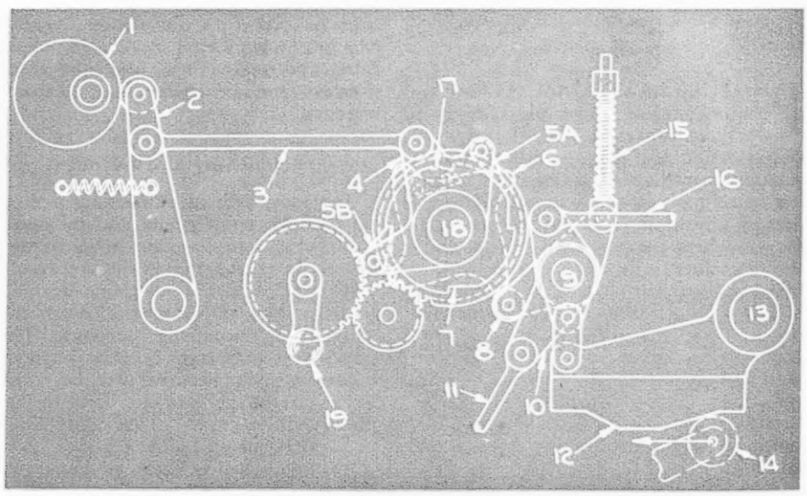


Fig. 2.—The cam *1* is driven at press speed 1 to 1, driving the lever *2*, which in turn is connected to lever *4* by link *3*. Lever *4* pivots on stud *18* and carries two pawls *5A* and *5B*. They, in turn, operate against ratchet *7* causing it to turn clockwise with stroke of lever 4. Ratchet *7* is keyed to cam *6* causing them to rotate clockwise together. Cam *6* has four high points controlling lever *8* keyed to shaft *9*. Shaft *9* carries lever and link *16* which controls the automatic pile lowering device. Lever *10* and link *11* are connected to first pile stripper fingers. Cam *12* pivoting on shaft *13* engages gripper release roller *14* upon the positioning of shaft *9*.

Therefore, lever *4* rotates cam *8* one-eighth of a revolution causing cam lever *8* to return to the low dwell of cam. This lifts gripper release cam *12* and allows the gripper to carry the sheet to the next pile. The next revolution of the press again rotates the cam one-eighth revolution, causing cam lever to rise to high point as shown, thus releasing the sheet in the first pile.

Explanation of Delivery Control on Harris Model TRG, 45 in. by 65 in. Two-Color Rotary Letterpress — This press is supplied with what is called a Double Delivery, *i.e.*, the printed sheets may be delivered to either of two piles, or they may be delivered to both alternately.

The indexed parts of the Delivery Control itself in Figs. 2, 3 and 4 are identified as follows:

1.—Driven Cam
2.—Cam lever
3.—Connecting link
4.—Lever
5A-5B.—Pawls
6.—Four point cam
7.—Ratchet
8.—Cam lever
9.—Shaft
10.—Lever
11.—Link to stripper fingers
12.—Gripper release cam
13.—Pivot shaft
14.—Gripper release roller
15.—Return spring
16.—Link to automatic lowering device
17.—Pawl mask
18.—Stud
19.—Pile selector handle

The Delivery Control mechanism gives automatic control over the releasing of the delivery grippers to the first pile. To operate an alternate delivery of this style it is necessary to have the grippers release the sheet over the first pile every other time, or every other revolution of the press.

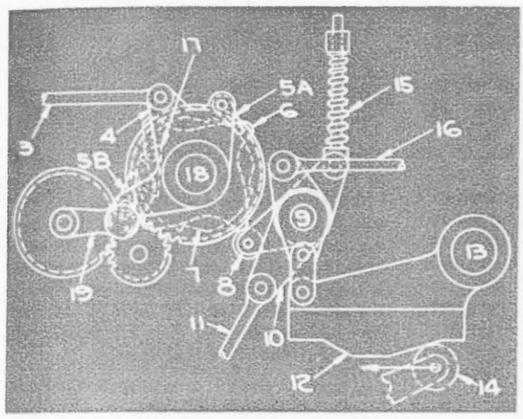


Fig. 3.—Here is shown the positioning of the mechanism which permits all the sheets to be delivered into the first pile. Handle *19* is turned left from position in Fig. 2 and this rotates mask *17* to position to restrict pawl *5B* from engaging and turning ratchet *7*. Therefore, the mechanism remains in this position to release all the sheets on the first pile.

jectives in mind—high speed and close register. We spent several years on the drawing boards working toward these objectives, and were fairly certain we had hit the goal before production began.

"Special attention was given to the over-all design of the machine, including maximum accessibility and simplicity of operation.

"There was no skimping on construction of the TRG, as is indicated by the net weight of approx. 68,000 lbs. This has resulted in a sturdy press that will give years of service, even when operated on a heavy schedule. Overall dimensions are 34 ft., 9 in. long by 13 ft. wide by 9 ft., 3 in. high.

"Test running of the first model on the plant erection floor was satisfactory. Since the first machines were shipped we have studied the TRG in actual production in customers' plants on long runs. Our observations lead us to estimate that 30% greater productivity on the average job is a conservative figure.

"Features of Harris offset presses have been built into this new letterpress machine. For instance, the feeding mechanism is supplied with the improved Harris HTB stream-feed. By this system the top sheet is separated from the pile by means of corner-combing wheels, operating in conjunction with suction cups and air-blast nozzles. Sheets are advanced to the front guides at approximately one-fourth of cylinder surface speed.

"As the sheets move down on the feed table they receive positive side-guiding by means of rotary pull from above and below. Front register is accomplished by means of the Harris feed roll method. By this method the sheets are advanced to the grippers of the feed cylinder with an over-feeding action. This insures exact lining-up of the sheet against the gauge pins to provide fine register.

"As is shown by the heavy lines on the diagram (Fig. 1), the sheet passes from the grippers of the feed cylinder to the advancing cylinder. From here it moves rapidly to the first color impression cylinder, to the double-size transfer cylinder, second color impression cylinder and finally to the grippers of the delivery conveyor chains. Then it is carried up and over the two piling positions. The transfer cylinder was designed to prevent any smear of the printed side of the sheet as it is transferred from the first to the second impression cylinders.

"The two delivery piles can be used alternately or one at a time. This is done by controlling the conveyor grippers, so that they release above the pile position as the operator desires. Control of these conveyor grippers is by means of a small hand-operated lever located between the piles on the operator's side of the machine. There are three settings of the lever. One setting gives alternate delivery; that is, first a sheet to the first pile, then a sheet to the second pile, then a sheet to the first pile, etc. The other two settings give continuous delivery to selected pile only. Changes in the method of delivery can be made while the press is running at top speed, without affecting its operation.

"To prevent damage to the printed sheets as they arrive in position for delivery, vacuum slow-down wheels are provided to operate on the tail of each sheet. For card stock a mechanical slow-down operates at the front edge.

"The delivery will take 46 in. of stock, while the feeder will take 58 in. Both feeder and delivery piles are equipped with motors for raising or lowering, and are controlled by pushbuttons. A 15 h.p. motor operates the main drive of the press.

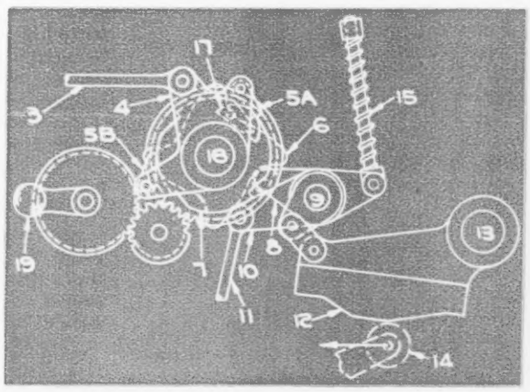


Fig. 4.— In this figure is shown position of the mechanism which permits all the sheets to be delivered on the second pile. Handle *19* is turned right which positions mask *17* to restrict pawl *5A* from engaging and turning ratchet *7*. Therefore, cam *6* comes to rest as shown and cam *12* allows all sheets to be carried to the second pile.

"The inking system is designed to insure an ample supply of evenly distributed ink. Five form rollers are used. All cylinders are carried on heavy-duty roller bearings. For each press 87 prelubricated ball bearings are used, and so far as advisable, other bearings are automatically oiled by a pressure system."

Dry Spray Unit Patent

Sid Bennett, President of International Dry Spray Corp., announces the issuance by the U. S. Patent Office of patent No. 2,496,194 covering integral parts and operation of the IDS 6-jet nozzle dry spray unit. In this connection, Mr. Bennett stated IDS units are distributed nationally by seven authorized dealers. He also said 1 lb. of powder covers at least 80,000 impressions on average size sheets. Also, the average size press, running from three to five days operating an IDS Spray Unit, will use up 1 lb. of powder.

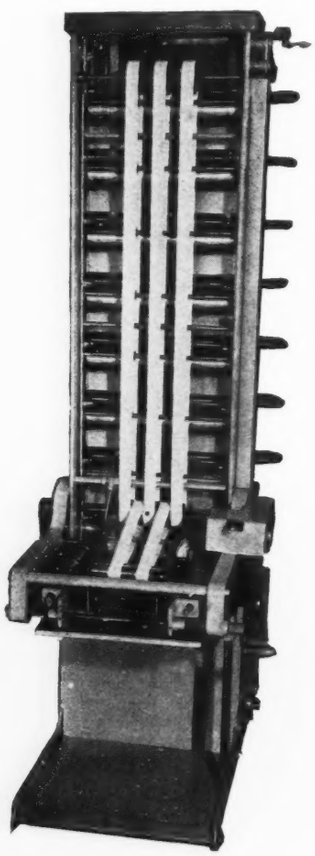
EQUIPMENT & SUPPLIES

If you wish additional information concerning equipment, supplies and/or technical literature, please make your request to *Printing Equipment Engineer*, 1276 West Third St., Cleveland 13, Ohio.

Dager "Inter-Leaf" Automatic Collator

THE Dager Inter-Leaf Automatic Collator is intended for gathering straight stock sheets at speeds of 1800 to 3000 sets per hr. Maximum number of forms which may be gathered is six. Sheet sizes range from 5½ in. by 8½ in. to 11 in. by 14 in. Delivery or receiving table is of the belt-roller type.

Description of the machine can best



Dager Inter-Leaf Automatic Collator (six tables) gathers straight stock sheets at speeds of 1800 to 3000 sets per hr. Sheet sizes from 5½ in. by 8½ in. to 11 in. by 14 in.

be understood by reading detailed movements of the parts and by referring to the accompanying illustration. First, the machine is 76 in. high; floor space required is 21 in. by 38 in.; ½ h.p. motor powers the machine; weight of machine is approx. 900 lbs.

At the rear of the three vertical belts are located at spaced intervals, one above the other, six horizontal stock tables, each of which supports 3½ in. of stock. The back surfaces of the three vertical belts shown in the picture extending from top of the machine to the delivery belts, travel downwardly and in contact with the feed rolls one of which is positioned between the belts and each of the six stock tables.

Each top sheet of the pile on each stock table is lifted by air suction and is fed in numerical sequence between a pair of feed rolls which grasp the sheet and cause it to be fed between the lower of the pair of feed rolls so that in turn the three vertical belts take the sheet as it is fed by the feed rolls. At this juncture, the sheet changes from horizontal to vertical position, traveling downwardly to the horizontal delivery in sequence, at which time its forward path of travel is deflected from vertical to horizontal. It should be explained here that the spaces between the feed rollers and the three vertical belts are supplied with guides against which the vertical belts work to support the sheets in positive collating position throughout its path of travel to the delivery or receiving table at the front of the machine. It should also be explained that the lowest of the feeding stations is level with the delivery and the sheets from this lower feeding station travel in horizontal position at the proper timed interval from the feeding station to the delivery or receiving table equipped with rotary sheet aligner.

A. Dager, of the Dager Maniform Co., explains that the receiving table is equipped with a device which makes it possible to adjust the table up or down quickly by means of a hand lever. The table lowering and raising device derives its power from the collator drive shaft.

Humidification Bulletin

ABBEON Supply Co. has issued a four page bulletin entitled *A Few Facts About Humidification For the Paper and Printing Trades*. The bulletin contains information concerning relative humidity, what it is and what its effects are in the average plant. Tables showing what humidities can normally be expected during different times of the year, the moisture content of various papers at various relative humidities, and the recommended humidity for various sections of printing plants and paper storage, appear within the bulletin. Information on static, curled stock, cracking of rollers, loose forms, and the cause and cure of other ills that beset the printer, are also listed.

Assembling Elevator Gate

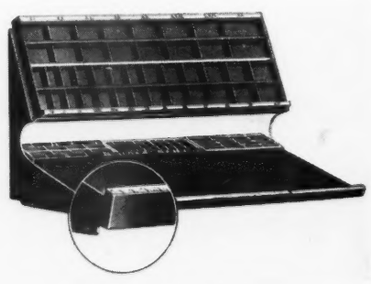
THE Linotype Parts Co., Inc., has announced an Assembling Elevator Gate with an assortment of hardened replaceable top rails for Intertype and Linotype machines. Four different rails are available which makes the basic gate

into the required type. Three screws hold the hardened replaceable rail in place on the basic gate.

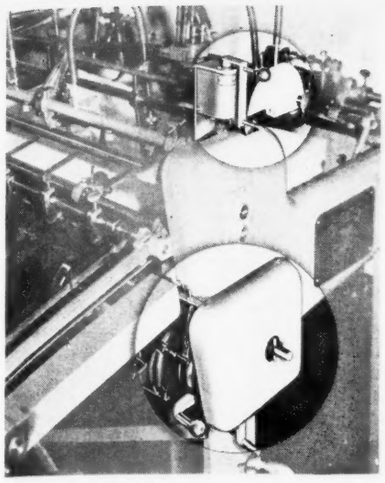
An advantage of the design, according to the sponsor, is that where the assembling elevator gate has heretofore been soft, it is now possible to make the wearing portion hard by adding the replaceable rail. The screw type hinge rod, which is claimed will eliminate wear in the holes, is a standard part of the Star Assembling Elevator Gate for both Linotype and Intertype machines.

Transparent Book Cover

A TRANSPARENT book cover, for use in libraries and schools, has been announced by the Saver Company. The book covers are available in sets of three, and are made of Pliofilm, which is claimed to be a tough, waterproof and tear-resistant material, produced by The Goodyear Tire & Rubber Co. Sponsor claims the Book Savers, as they are called, are easy to put on, fit skin tight regardless of book size, are long wearing, impervious to liquids, and may be cleaned with soap and water.



Pica Rule for Type Cabinets—A 24 in. pica rule is now attached to the galley ledge on all Hamilton type cabinets with sloping working banks, according to a recent announcement by the Printers Equipment Div., Hamilton Mfg. Co. The rule is stainless steel, mounted to extreme left edge on single-tier cabinets, with a second rule mounted flush to center on double-tier cabinets. In use, the compositor places the galley so that the first line of type comes even with zero marking on the rule. This shows him the depth of the form as it is being made up. Sponsor states that the rules, together with self-treading attaching screws, will also be supplied separately to present owners of Hamilton type cabinets.



Pile Lift Mechanism — A motorized pile lift mechanism, which may be installed as optional equipment on any EBCO press using a.c. current, has been announced by the Printing Machinery Div. of the Electric Boat Co. The attachment is equipped with a ¼ h.p. motor which raises or lowers the pile at a speed of 1 in. per sec., with a brake designed to eliminate coasting while lowering the pile. A limit switch prevents the pile from raising beyond the safe point, it is claimed. The lower circle in the illustration shows the enclosed motor. The upper circle indicates the switch and safety mechanism required in raising or lowering the pile.

Water Cooling and Heating Units

DESIGNED for use in photographic processing and platemaking laboratories, is a water cooling and heating unit announced by Oscar Fisher Co., Inc. This unit supplies cold or hot water as may be required and is claimed to be completely hermetically-sealed.

Designated the IC Series, the units are available in three standard models. In operation, incoming water is pre-cooled before it reaches the refrigeration section of an IC unit. This is accomplished by water passing through coils which are surrounded by outgoing waste water (which is usually not higher than 70 deg. or 72 deg. F.). After pre-cooling, the incoming water is cooled by refrigeration to 50 deg. F.

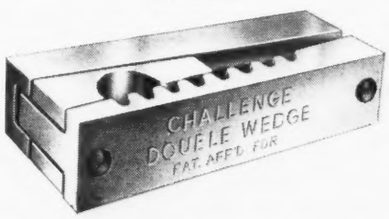
The 50 deg. F. water is then delivered to the temperature control unit and mixed automatically with regular water supply to predetermined temperature (usually 68 deg. F.). Sponsor claims the temperature control unit will hold this selected temperature within ¼ deg. F.

Water at 68 deg. F. is delivered to the sink where it surrounds film tanks and print trays to maintain processing solution temperatures. This same 68 deg. F. water is used to wash film or prints. Water leaves sink through drain and passes through pre-cooled section of the IC unit, thereby pre-cooling inlet water and completing the control cycle.

To avoid too heavy duty being placed upon the heating capacity of the IC Series, it may be necessary to add a booster heating unit. Model IC-2 is designed for single processing unit operation and is available separately or as a built-in component of any Fisher processing sink. Models IC-3 and IC-4 are self-contained in stainless steel cabinets. IC-3 measures 28 in. by 29 in. by 21¼ in. high; IC-4 measures 28 in. by 43 in. 21¼ in. high.

Triple Function Jogger

A PORTABLE jogging machine which weighs 22 lbs. and performs three functions, has been announced by Ditto, Incorporated. Sponsor states the machine jogs individual sets on a tilted table, jogs a ream or more of paper on the jogging table with the tilt table removed, and strips or separates departmental copies, slip sheets, carbon papers, etc. The machine, designated the Jog-a-Sorter, requires the space of a standard typewriter. It is claimed that the Jog-a-Sorter handles various weights and sizes of paper without adjustment and provides varying degrees of vibration from front to back.



Double Wedge Quoin — The Challenge Machinery Co. has announced a 3 in direct expansion quoin, designated the Challenge Double Wedge Quoin. Sponsor claims the tight, uniform pressure produced by direct expansion eliminates damage to type, slugs, furniture or chase. The self-contained unit will expand up to and including 12 pts. Overall height of the quoin is 7/10 in.; closed width, 9/10 in.; and length, 3 in. The double wedge quoin is locked and unlocked with a Challenge long fluted Style F key. The key is designed to lock and unlock both the No. 1 Challenge quoin and the double wedge quoin.

Lawson Spacer Bulletin

THE E. P. Lawson Co. has issued an information folder on the Electronic Spacer Cutter. Features of the spacer are listed in the four page bulletin, as well as an illustration of the heavy duty, hydraulic lamp cutter. Six individual setups are permitted by a hexagonal spacing bar on the machine. The bar is illustrated in the two color bulletin. Specifications for both the 46 in. and 52 in. size cutters are also given.

Safety Equipment Catalog

THE 1950 issue of *Everything in Safety*, a catalog of personal protective equipment and industrial safety devices, has recently been released by the General Scientific Equipment Co. Information on respiratory devices, eye protection, hats, gloves, carboy pumps, drum pumps and miscellaneous industrial safety equipment are included in the catalog. Illustrations and price list are also included in the 46 page catalog.

Cold Resyn Adhesive

NATIONAL Adhesives has announced the use of a cold Resyn adhesive for adhering Polyethylene film to both regular and bleached kraft paper. Ralph McGaffin, Manager of the National Adhesive Resin Dept., said his company has conducted research and development work with Polyethylene since this transparent film was perfected. Originally, it was believed almost impossible to adhere Polyethylene with adhesives. It has since been found, the sponsor claims, that a series of National's Resyns are applicable and adhesion is being accomplished on high-speed machines in the fabrication of Polyethylene-lined kraft bags. Results are also being obtained, it is claimed, in combining Polyethylene to kraft paper, Polyethylene to cloth and burlap, Polyethylene to itself, and Polyethylene to foil.

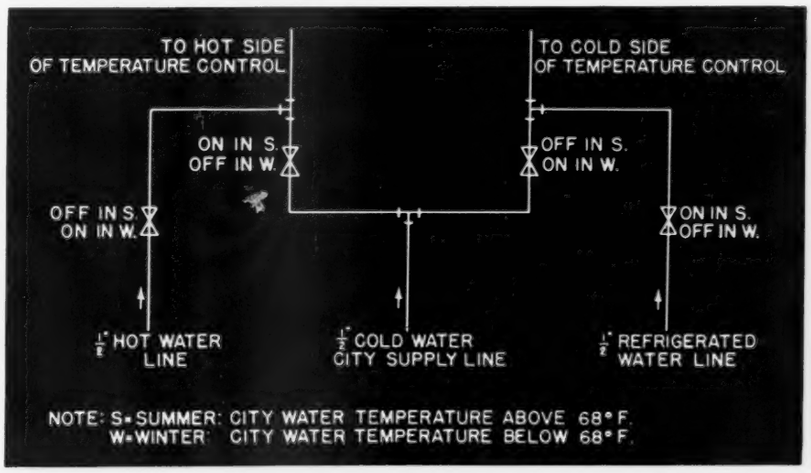
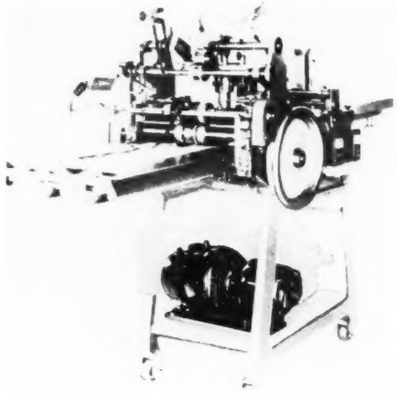

TO HOT SIDE OF TEMPERATURE CONTROL
TO COLD SIDE OF TEMPERATURE CONTROL
ON IN S. OFF IN W.
OFF IN S. ON IN W.
OFF IN S. ON IN W.
ON IN S. OFF IN W.
½" HOT WATER LINE
½" COLD WATER CITY SUPPLY LINE
½" REFRIGERATED WATER LINE
NOTE: S=SUMMER: CITY WATER TEMPERATURE ABOVE 68° F.
W=WINTER: CITY WATER TEMPERATURE BELOW 68° F.

Diagram shows the piping arrangement connecting the refrigeration section of an IC unit with the temperature control unit. The unit is used to provide water of a selected temperature for use in photographic processing and platemaking. According to the sponsor, Oscar Fisher Co., Inc., the unit is a complete mechanism which contains an hermetically sealed refrigerating system and a water cooling chamber.

Rubber Roller Booklet

THE various rebuilding phases in making rubber rollers for printing presses are graphically described in a booklet issued by The Moreland Corp. Each operation in the Moreland plant is illustrated and described, from the time the rollers are received for rebuilding until they are finished and ready for shipment. The various operations include stripping the stock from the core, preparing the core for rebuilding by blasting, milling rubber stock from raw materials, calendaring, building the rollers, vulcanization, finishing to proper size, grinding, polishing and inspection. Suggestions on the care of rollers are also listed in the booklet.

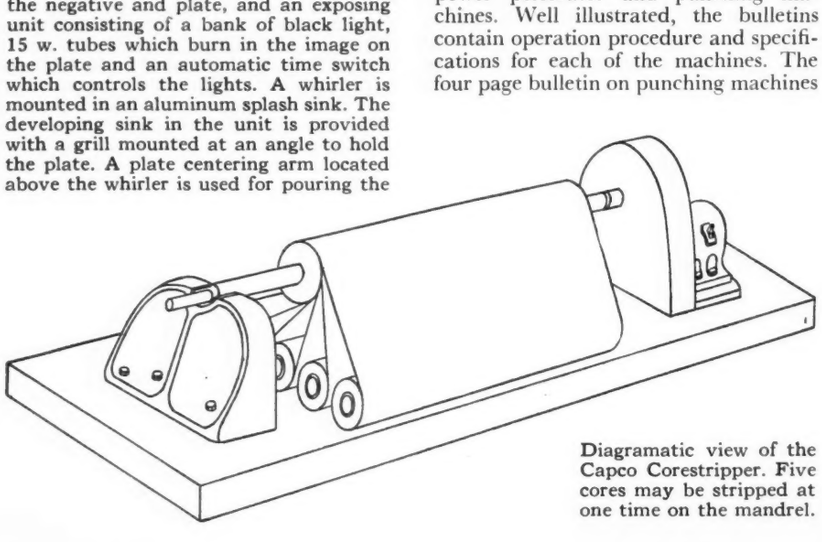
Packaged Plate Maker—A plate making unit for use with Multilith, Davidson and Webendorfer presses has been announced by Miller-Trojan Co., Inc. Sponsor states it is designed to produce a finished metal, paper or plastic plate on this one unit. Features of the unit include a pressure type frame for contact between the negative and plate, and an exposing unit consisting of a bank of black light, 15 w. tubes which burn in the image on the plate and an automatic time switch which controls the lights. A whirler is mounted in an aluminum splash sink. The developing sink in the unit is provided with a grill mounted at an angle to hold the plate. A plate centering arm located above the whirler is used for pouring the sensitizer on the plate. The infrared dryer on the unit is used for drying the sensitizer.



Air Pump—The Kraissl Company has announced the Class 23 Series Air Pump designed for suction and pressure applications. The pump is shown in the above illustration installed on an automatic sealing machine. The Class 23 Pump provides the suction and pressure for the feeding of catalogs and other printed literature, as well as for the sealing operation. Some of the applications where this type of pump is adaptable are suction feed or pick-up of paper, cardboard, tin, etc.; automatic handling on conveyor systems; printing presses and vacuum printing frames, and photo composing machines. Sponsor claims the pump is dry lubricated, fanned-cooled, designed for operation at 1750 r.p.m., and has a capacity range from 5 cu. ft. per min. to 20 cu. ft. per min.

Rosback Bulletins

THREE bulletins have been issued by the F. P. Rosback Co. describing the Rosback hand perforator, heavy power perforator and punching machines. Well illustrated, the bulletins contain operation procedure and specifications for each of the machines. The four page bulletin on punching machines shows both the Rosback Pony Six and Special Six accompanied by illustrations of the round hole punches and dies and open hole punch heads that each of these models will accommodate. The perforating, round cornering and double tab-cutting attachments for both models are also described. Features of the Rosback Super XX heavy power perforator are shown in another four page bulletin. Each of the three bulletins are printed in two colors and measure 8½ in. by 11 in.



Diagramatic view of the Capco Corestripper. Five cores may be stripped at one time on the mandrel.

Paper Roll Corestripper — A machine designed to remove or strip the ¼ in. or more of paper remaining on a paper roll core after leaving a newspaper press has been announced by Capital Tool & Mfg. Co. In operation, the stripping is accomplished by starting the free end of the paper on a rotating, accumulating shaft. Designated the Capco Corestripper, sponsor claims the machine will strip up to five paper roll cores simultaneously. The machine is driven by a ½ h.p. motor which is connected to the drive by a V-belt. The accumulative shaft is set in a half bushing. The shaft, which runs at approx. 125 r.p.m., is held in position by a collar on the shaft. It is disengaged by lifting up approx. ½ in.

BOOKS
RECEIVED

VIIth Diamant Classic

THE seventh Diamant Classic has been received by *Printing Equipment Engineer*. These little volumes create an annual feeling of delightful possession. They compare in design and workmanship with the famous Mosher books, and other miniature books which have been published in limited edition by Amadeo Tommasini, Harold Lauck and others.

This year's Diamant Classic (No. 7 in the series) is entitled *Creating Type*. It was written and illustrated by Dr. R. Hunter Middleton, Director of Type Design, Ludlow Typograph Co. In the Foreword, E. M. Diamant presents some of the personal facts about Dr. Middleton, who seems not to have received the acclaim due him until recently. We believe this delayed recognition among rank and file executives to be due in part to Dr. Middleton's innate modesty.

The discussion about type designing by Dr. Middleton commences with the period of 500 years ago. The techniques employed in creating type faces and manufacturing matrices are described. The line drawings used in illustrating the book are attractive and do not constitute "sore spots" for the reader's eyes. The weight of the lines in the perspective drawings seems to be about right in relation to the text type.

Reproductions of 19 of the type faces produced by Dr. Middleton for the Ludlow Typograph Co. are presented in Ludlow 18 pt. with the exception of two which were mechanically reduced.

Creating Type, by R. Hunter Middleton, DFA. Size 2 3/8 in. by 4 3/8 in., 78 pages. 10 illustrations by the author, with 19 charts showing type faces also designed by the author. Hard bound in green paper covered board with all-over chap book style cover design in black. Set in 9 pt. Linotype Bodoni Book. Title page and cover in Goudy Text. The edition consists of six hundred and fifty copies for distribution to friends of the Graphic Arts by Diamant Typographic Service, Inc., 140 W. 17th St., New York 11, N. Y. All copies of six previous editions are completely out of print.

SNPA Western Div. Mechanical Conference

SUBJECTS ranging from the correct depth of etch on a 75 line halftone screen to application of the Golden Rule in mechanical department relationships, were discussed at the annual meeting of the Southern Newspaper Mechanical Conference (Western Div.) held in Fort Worth, Tex., February 6 and 7. More than 325 mechanical department executives and suppliers from Texas, Oklahoma, Arkansas, and Louisiana were registered to make the meeting the largest of its kind ever held by the group.

George Guthrie, Pressroom Foreman of the Little Rock (Ark.) *Gazette*, presided over the departmental sessions. At the closing session of the conference, George Woodman, Mechanical Superintendent, Fort Worth (Tex.) *Star-Telegram*, was named chairman to succeed Mr. Guthrie. Palmer Black, Mechanical Superintendent, Amarillo (Tex.) *Globe-News*, succeeded Mr. Woodman as vice chairman.

Elected to the executive committee with terms expiring in 1953 were L. W. Thornton, Pressroom Foreman, Shreveport (La.) *Journal*; Elmer Hodgkinson, Stereotype Foreman, Oklahoma City (Okla.) *Oklahoman-Times*, and F. R. Rice, Composing Room Foreman, Little Rock (Ark.) *Democrat*.

Baumrucker Discusses Research

William Baumrucker, jr., New York *Daily News* administrative assistant and chairman of the ANPA Research Committee, described in detail the research program now being carried on by ANPA and outlined some of the results. He stated his address was based upon a similar address delivered recently by ANPA Research Director Flint before the New England Mechanical Conference.

There are six general fields of investigation currently being looked into. In addition to the primary ingredients, paper and ink, research now includes the composing room, stereotype room, engraving room, mailroom, and the pressroom, the research committee chairman said.

Describing the results achieved when pursuing one objective, Baumrucker told how investigation of a mat, which would require no packing, led to other findings. "Scorchers operate at an average temperature of 350 deg. F., in which mats are scorched an average of 2½ min. We found that if we placed a mat that had been molded, into an oven at 350 deg. F. for 2½ min. instead of in a scorcher, and then scorched it for about 30 sec., an ordinary mat dried out strong enough to hold up, without packing of any kind, in areas up to one-half inch wide. This is as good a result as we aimed for from our process of impregnating mats with plastic. We found further that, by curing a mat in an oven instead of a scorcher, the same shrinkage could be obtained with a vastly less amount of moisture than would be required in the mat if it were to be dried out in a scorcher. This lesser moisture content has obvious advantages."

Research Objectives

The Research Committee, Baumrucker said, would like to see what can be done to speed up a line-casting machine from its present maximum speed of about 8 lines a minute to 12 lines or more a minute so the line-casting machine may be able to keep up with rated speeds of Teletypesetter equipment.

The development of a process whereby an engraved plate may be produced in five minutes or less from the time the original halftone or line negative has been prepared has been set as a goal by the committee.

Tensions controls, first impression offset and ink distribution system improvements are also receiving attention from the Research Committee.

"Our feeling is that we will all do a better job if there are fewer unknowns about a press. Ink should be set to a measured blackness, rollers should be set to a measured impression, and impression should be set to a definite standard," Baumrucker declared.

The necessity for economy in newspaper operations was discussed by M. M. Donosky, former Dallas *News* executive, who stressed application of the Golden Rule in employer-employee relationships.

Mechanical department executives can make their jobs easier and do a lot for their newspaper's advertising accounts if they will get acquainted and work with store advertising managers said Curtis Taulbee, Fort Worth department store advertising executive. He described the high degree of cooperation between the advertising department of his department store and the composing rooms of Fort Worth newspapers and said this cooperation could be obtained in other cities if interested people would just take the trouble.

Keeping Metal Clean

A method for avoiding contamination of type metal was offered by W. C. Roddy, Sales Manager, Metals Refining Co., who suggested distribution of circulars or cards to employees who fill the hell boxes. The circular suggested by Mr. Roddy would read:

"Do not throw string, paper, empty cigarette packages or any other trash into the dead metal boxes or on the floor. These materials leave fine ashes in the metal which add impurities to our metal causing sluggish metal, poor fluidity, dirty plungers and mouthpieces, resulting in poor type faces and plates. Please do your part to keep our metal clean by placing the trash in the proper container provided for that material."

A copy of the above given to each man in the plant every 30 days for three months, will bring about a big improvement, Roddy said.

He continued, "Have your metal sup-

Parking Space

VISITORS at the forthcoming Sixth Educational Graphic Arts Exposition to be held in International Amphitheatre are being assured that there will be plenty of free parking space in 15 acres surrounding the exposition hall which is owned by the management of the Amphitheatre. This area — excellently illuminated at night — will accommodate at least 4000 cars.

Human Relations Classes

PRINTING plant executives realizing the importance of human relations in industry will be interested to learn about the course of *Human Relations in Industry* currently being sponsored by the Club of Printing House Craftsmen of New York, Inc. The course, which started in mid-February, consists of case histories and goes into the human relations problems that actually exist in printing plants. Those sponsoring the course stipulated that no previous experience in personnel work is necessary for a shop superintendent or foreman to be eligible. The classes are under the direction of Jules M. Graubard, Extension Div., New York State School of Industrial Labor Relations, Cornell University.

Printing Equipment Engineer congratulates the New York Club for sponsoring a needed educational activity.

Manager A Genius

(Abstracted from an address *General Management Principles* delivered before the 1949 Printing Alumni Reunion at Carnegie Institute of Technology, by Joseph Chanko, General Manager, Condé Nast Press, Greenwich, Conn.)

IT has been said that a successful manager is usually a genius. I agree, provided you accept the definition of a genius which I read somewhere, that genius is 2 per cent inspiration and 98 per cent perspiration. Application of sound principles, rather than brilliance, is productive of satisfactory accomplishment. A manager may be likened to an orchestra leader. He should know what goes on all the time in his business and be ever on the alert to redirect any major functions which are out of step.

1.—Machinists Get Together—Looking over the shoulders of Harold Bradberry of Tyler, Tex., on the left and Fred McAllister of the Ft. Worth (Tex.) *Star-Telegram* on the right are, left to right, Walter Dowell, Tulsa (Okla.) *World-Tribune*, Roy Marshall, Ft. Worth (Tex.) *Press*, and Lewis Broadman, Ft. Worth (Tex.) *Star-Telegram*.

2.—Pressmen and Inkman—Lewis Faires, Pressroom Foreman of the Austin (Tex.) *American-Statesman* on the left and Frank Beneke, Pressroom Foreman of the Ft. Worth (Tex.) *Star-Telegram* on the right talking with Sid Rochelle of George H. Morrill, Div. of Sun Chemical Corp., Ft. Worth office.

3.—All Sections Here—Texans from every section, and one man from Arkansas are in this Southern Newspaper Mechanical Conference (Western Div.) picture. From left to right, they are: Houston Awalt, Mechanical Superintendent, San Antonio (Tex.) *Express-Evening News;* Ralph Moffett, Composing Room Foreman, Dallas (Tex.) *Times-Herald;* J. C. Johnson, Composing Room Superintendent, Galveston (Tex.) *News-Tribune;* A. C. Robertson, Composing Room Foreman, Midland (Tex.) *Reporter-Telegram;* E. A. Turner, Stereotype Foreman, Little Rock (Ark.) *Democrat;* and E. A. Crisman, Machinist, Midland (Tex.) *Reporter-Telegram*.

4.—Speaks Volumes—Leven Deputy, Mechanical Superintendent of the Dallas (Tex.) *News*, was presented a book at the SNPA Mechanical Conference (Western Div.) banquet. Standing on the left he admires it and looking on from left to right are Mike Murray, Dallas, Texas Daily Newspaper Association secretary; C. W. Tabb, Dallas, conference secretary; George Guthrie, Pressroom Foreman, Little Rock (Ark.) *Gazette*, and George Woodman, Mechanical Superintendent, Ft. Worth (Tex.) *Star-Telegram*.

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plier alloy your composing room replacement metal and return it in Margach or hand feeder bars, so the metal can be run directly through your strip material machines or through your Ludlow, Monotype sorts casters, head or ad machines. Better faces and bodies will be produced for immediate use. As the forms are released the new metal is mixed with the service metal. This will automatically replace the deficient ingredients caused by the use cycles and dross residue.

He declared that type metal should be considered an expensive piece of equipment and given equal care.

On the eve of the conference a special machinists' sessions was attended by 60 persons who heard L. F. Byus of Mergenthaler Linotype Co.'s New Orleans office describe improvements and modifications being made on Linotype machines. Lewis Boardman, Chief Machinist of the Fort Worth *Star-Telegram*, served as topic leader. Topics were discussed by Walter Dowell, Tulsa (Okla.) *World-Tribune*; T. B. Carpenter, Dallas (Tex.) *Morning News*; Hugh Lusk, Dallas (Tex.) *Times Herald*; Floyd Young, Lufkin (Tex.) *Daily News*; and Elton Jones of Stafford-Lowdon Co., Fort Worth.

Routine care of line-casting machines was stressed as one of the most important functions of a machinist and a knowledge of major machine adjustments was emphasized by the machinists.

Engraving Topics

Particular interest was placed on proper procedures for getting the best print from Fairchild engravings. Consensus of opinion was that the most satisfactory method was to print direct from the engraving. No satisfactory results were reported by those who had tried stereotyping the plastic cuts.

Arch Dixon, Engraving Room Foreman of the Oklahoma City (Okla.) *Oklahoman-Times*, reported that 75 line screen cuts made in their engraving room were picking up bottoms in the highlights and that the stereotypers and pressmen were unable to correct the trouble.

The remedy was found when it was discovered that depth of etch on the highlights must be 0.005 in. It had previously been 0.004 in., which had caused the underlay used by the pressmen to aggravate the condition. Dixon said he obtained the 0.005 in. depth by using three powder bites and that he also used three depth gauges, one each in the etching room, the machine room, and on the finishing bench.

D.P. Molding

Much interest was shown in what would be the best molding combination for direct pressure molding. R. J. Herbert, of the Dallas *Morning News*, said he obtained best results from using a deep mold creeper, a bakelite board and hard cork with 450 to 550 lbs. pressure.

In answer to a question by Mr. Woodman on how to keep cleaning fluid from dissolving cement used to glue cuts down in ads, Houston Awalt, of the San Antonio (Tex.) *Express-Evening News*, said his composing room used Scotch tape to anchor the cuts. J. R. Loughridge, of the Houston (Tex.) *Post*, recommended marking position of the cuts on the base to guide the stereotypers in placing the cuts.

Not Ready for 4-Color Process

The opinion was expressed by Lawrence Culver, Fort Worth *Star-Telegram* Engraving Room Foreman, that newspapers are a long way from being ready for four-color process printing and that much study of methods and procedures is necessary.

Mr. Dixon said he would like to see the ANPA set up standards and formulas for overprinting in engraving.

A resolution was passed by the conference instructing Conference Secretary C. W. Tabb of Dallas, to write to press blanket manufacturers and request them to stamp the correct blanket gauge on each individual blanket. It was brought out in discussion that in a large shipment of blankets there may be variations in the thickness between individual blankets.

Topic Leaders

Topic leaders for the conference were Mr. Rice, composing room; Mr. Hodgkinson, stereotype; Earl White, Tulsa (Okla.) *World-Tribune*, pressroom; Mr. Boardman, machinist; and Mr. Culver, engraving room.

Sid Rochelle, of the George H. Morrill Co.'s Fort Worth office, was chairman of the equipment and supply men's committee.

Mailing room problems will be discussed at the next meeting of the conference and S. W. Blakeslee, Foreman of the Fort Worth *Star-Telegram* mailing room, will be topic leader. Other topic leaders named for the next conference were: Carl Lawrence, Tulsa (Okla.) *World-Tribune*, composing room; Paul Tanner, Houston (Tex.) *Post*, pressroom; E. J. Smith, Dallas (Tex.) *Times Herald*, stereotyping; T. B. Carpenter, Dallas (Tex.) *Morning News*, machinist; and Mr. Dixon, engraving.

William Sefton, of the Howard Flint Ink Co.'s Houston office, was elected equipment and supply men's chairman.

Tool

for Applying Newspaper Press Blankets

WHAT is called a "knuckle and skin saver" has been distributed to newspaper pressroom foremen by Tingue, Brown & Co. The device consists of a pair of tools each of which is dog-leg shape with an eye in one end, as shown in the accompanying illustration, for applying newspaper impression cylinder blankets.

As is well known, the slot in the cylinder isn't roomy enough to permit the pressman free use of his fingers when applying the edge of a stiff new blanket over the row of pins inside the slot. In some cases, the opening in the slot is ¾ in. Consequently, there is always present the hazard of skinned fingers and knuckles when applying the blankets without a tool of some kind.

Especially when new, the underpacking on two and three-piece blanket combinations are not the most flexible materials. When you take into consideration that even though the leading edge of the blanket has been pre-punched with holes corresponding to the spacing of the pins in the cylinder, the job of applying the blanket over the pins isn't so easy. The reason, of course, is that the slot opening is only ¾ in. On some of the latest presses the work of applying blankets to the pins has been made easier by the press manufacturer, he having supplied a guide back of the pins, which helps considerably.

Before applying the blanket, the pressman punches holes along one edge of the blanket which correspond in spacing with the spacing of the pins in the cylinder slot. These holes must be in exact alignment with the general "grain" in the blanket. Otherwise, when the reel is turned to pull the blanket taut on the cylinder, the blanket would be loose at one side which doesn't improve the printing qualities of the press and in addition causes press operating complications.

For those who are not exactly familiar with the importance of blanket application technique, it is explained that on a double-width newspaper press the plate cylinders accommodate eight plates across the length of the cylinder. The blankets for the corresponding impression cylinder are divided into two sections and butt each other in the middle of the impression cylinder. Thus, when speaking of two-piece blanket combinations, (the top sheet and the underpacking), four pieces will be required to cover the cylinder. In a three-piece combination, (the top sheet and two sheets of underpacking), six pieces will be required to cover the cylinder.

The flat tools, one of which is shown in the accompanying illustration, are used to push the blanket over the pins inside the cylinder slot. The tool is used in pairs by the pressman and his assistant.

When applying a blanket, the pressman pushes it down into the slot in the impression cylinder. The pressman then locates the inside edge of the blanket so that the hole nearest the edge will be located over the pin in the center part of the slot in the impression cylinder. Meanwhile, the pressman's assistant holds the outer edge of the blanket down in the slot in approximately proper relationship of the holes to the pins. The pressman then commences pushing the blanket over the pins. Using the knuckle-saver, he inserts the eye-end of the tool between cylinder slot and blanket and uses the edge of the cylinder slot as a fulcrum. However, he only pushes the blanket onto the pins part way through the fabric. When the pressman has reached the center part of the blanket, the assistant can let go of the outer edge. The pressman continues using the knuckle-saver to force the balance of the blanket part way over the pins, one at a time until he has reached the outer edge of the blanket while the pressman completes pushing the balance of the blanket partially down on the pins, the pressman's assistant goes to the inside edge of the blanket in the center part of the impression cylinder. Using his knuckle-saver he forces the blanket all the way down on the pins. The blanket is then ready to be reeled up tight around the cylinder.

Production and Mechanical Executives are invited to submit to the editor informally in a letter, devices which have helped production in their plants.

The ABC of OFFSET

For Letterpress Printers

By George Jos. Lenzer

II.—TYPE

TYPE and typographic composition is associated with the letterpress printer up to the point where Type becomes material for the lithographic camera man and plate maker such as are illustrated in Fig. 3. At this point, the printer's concept ends and the lithographer's begins. At the camera stage, type becomes a subject for photography and is termed Typographic Copy.

The meaning of the term is different from that of the writer or printer. Lithographically, typographic copy is associated with and is classed in the same category as Line Art and is reproduced in a similar manner.

Guide to the preparation of type proofs for the reproduction process, is subject to two basic considerations. First, the proof must be an example of the best typographic skill, and second, it should be suitable for photographic reproduction procedures and processes. For these reasons, the type proof for offset reproduction is called a "photo proof" or a Typographic Reproduction Proof. Specimens showing how type reproduces in Offset are illustrated in Fig. 3.

Typographic copy is available to the lithographer in several different forms, each being produced in a manner separate and distinct from the printer's conception. A few of the forms are described in the following paragraphs.

Proofreading

In Offset, proofreading is of more than usual importance. It is best begun when the copy is still in typewritten form. A major step in reducing composition costs is to edit the copy before it is set. After the type is set, the change of even one word may require the resetting of an extra paragraph. The proof should be read when it is received, and should be re-read when the paste up is completed. This may seem foolish, but when the costs of rephotographing the copy is considered, this precaution will pay off.

If the lithographer is required to supply proofs in the form of photo prints, blue prints, brown prints, silver prints or Vandykes, then, the type should be re-read and read again. Because these proofs are submitted for final OK before plates are made, the wisdom of re-reading becomes evident.

To remake a plate, because of an error in typography or an accident in the photographic procedures, or because of several other mishaps which may occur, is costly and more expensive than the cost of the precaution taken.

Proofreadings should be made, if possible by more than one reader, for these reasons: First, that the same reader is apt to become lax during subsequent readings; second, that a fresh eye and view point will invariably detect flaws which may have eluded a previous reader; third, Final readings of OK proofs and plates should be made by a person experienced in the various offset processes, because if some error or flaw is detected, corrective measures may be possible by which the remaking of plates can be avoided.

The importance of proofreading in Offset cannot be stressed too strongly, and should be repeated over and over again. An error originating in the original composition, if repeated in subsequent stages of the various procedures, becomes more and more costly and expensive to correct.

To have an entire edition of lithographed paper, probably printed in more than one color, dumped in your lap because of an undetected error or flaw is something to think about. If the dissatisfied customer is not lost, the accumulated costs of production are, plus the additional costs of making the correction and re-running the edition.

So remember: *proofreading, in Offset, is important.*

Kinds of Reproduction Proofs

We will not go into the mechanics of type, because such a procedure would only tend to recount knowledge which is already common to the printer, and of equal importance to the lithographer.

Paper Reproduction Proofs

The choice of proof paper is determined by its photographic qualities, and the way in which it accepts ink and inked images. Because of its tendencies to produce troublesome glare for the camera, glossy paper should be avoided. A dull-coated, blue-white paper is preferable for reproduction proofs.

Type impressions must be sharply pulled, and in a dense black ink. For the same reasons that glossy paper should be avoided, glossy ink should not be used. Soupy inks have a tendency to spread, causing halos around the letters, while extra stiff inks can cause picking of the paper surface. Picking causes white spots to appear in the type impressions. Too much pressure in pulling the proof may cause the ink to spread, rendering type with a heavy, black, rough outline and a weak, gray center, or body.

High letters in a form of type may punch deeply into the paper and leave shoulders, This condition is evident on the reverse side of the proof. Type which is too low in the form, either fails to print altogether or else leaves an impression too light in color to photograph properly.

Smears of fresh ink should be avoided. If the proofs are to be used immediately upon receipt from the typographer, they should be dried first under a heat lamp. Dusting the proof with chalk or talcum is not advisable, because it has a tendency to gray the letters. A tissue between fresh proofs and careful handling will prevent ink smears.

If difficulties are encountered with type proofs, the typesetter should be consulted, and a proof of proper quality should be obtained.

Remember that a lithographer can do very little to improve unsatisfactory proofs.

Reproduction proofs discussed so far must be used as copy to be mounted on a paste up with other copy and art work, to be photographed. Therefore they must be kept clean and free of all dirt, smears, fingerprints and smudges.

GEORGE JOS. LENZER

Cleveland Offset-Lith Technician and author of *The ABC of Offset* currently appearing in *Printing Equipment Engineer*, had this portrait taken with special lighting. Fluorescent lights were placed on either side, a spot light was directed at the top of his head, and the bare wall background (light green color) was toned with flood lamp resting on the floor.

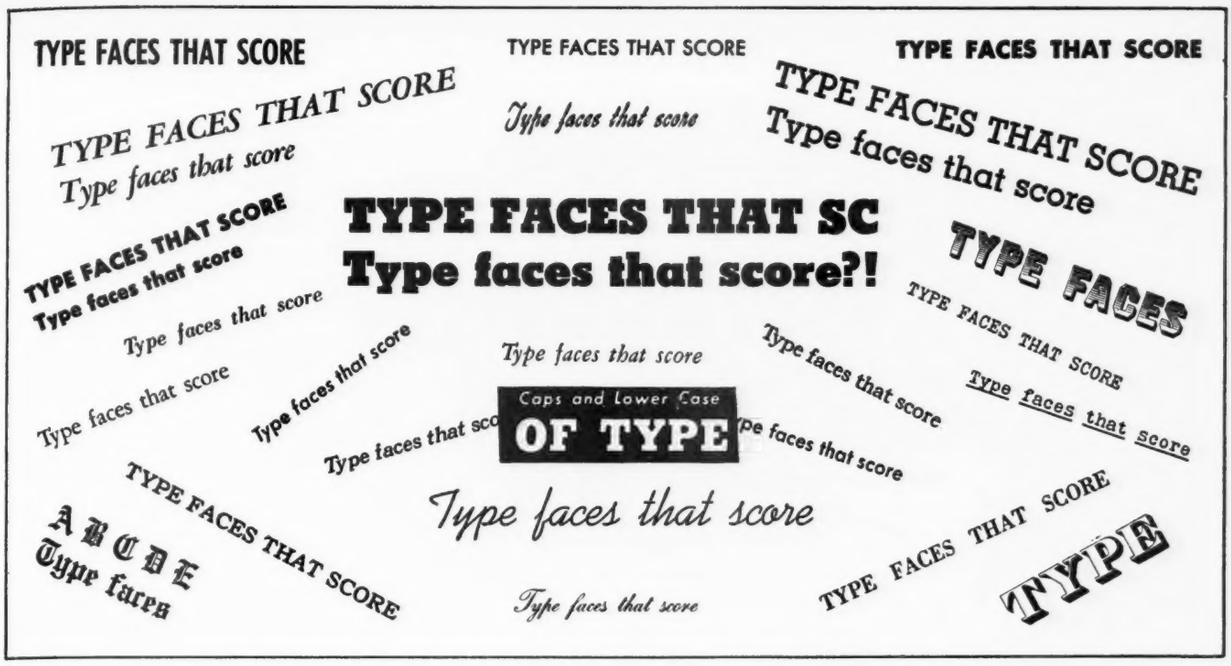


Fig. 3.

Typewriter Composition

If that was a yell of derision, calm down. The typewriter with its many refinements is used largely by many Offset houses. These special typewriters are used to produce typewritten copy suitable for Lithographic reproduction and Offset.

The chief mechanical features which distinguishes these machines are the methods of justification. On at least one of these machines is featured a wide range of interchangeable type faces of many sizes with automatic column justification.

Operation of the typewriter-like composing machine is a specialized job and should be performed by a trained operator. Present machines require approx. 2 oz. pressure upon the key-button by the operator. Then force of the stroke of the letter upon the paper is controlled mechanically.

Regardless of the make of machine being used, care must be taken to keep the platen roller and type characters clean, and the typewritten proofs must be free of erasure marks, smears and soiling by careless handling.

Fototype Composition

Fototype offers two methods for the composition of display type into lines which are suitable for reproduction by Offset. The characters, printed on thin card board are packaged in pad form, four characters wide. Each tab has the specific character printed in light-blue on its face side and in opaque black on the other.

The characters are assembled in a special holding device, or composing stick. When the line of copy, which appears in blue, is set; a strip of transparent tape is used to hold the line of characters together. Removing the taped line of copy from the holder, it is turned over exposing the black characters. The line of copy, in its entirety may then be mounted anywhere.

The second method of Fototype Composition will be discussed under the heading, "Fototype Transparencies."

Trick Type Effects

By special photographic methods, it is possible to expand, condense, lengthen or shorten any type face; or to cause lines of type to be moved, bent, shadowed or outlined. Some photographers are specialists in this work, creating unusual type faces, simulating hand lettering and odd layout effects from normally produced type proofs. Several patented processes are made to perform similar operations with specially designed cameras and equipment.

Transparency Proofs

With newly developed equipment, it is possible to pull reproduction proofs on transparent acetate or glassine. The photographic operation may be eliminated, with this kind of proof. Properly pulled transparency proofs may be used by the lithographer as a positive film to make a plate or, if necessary, to make a contact negative.

These transparent proofs are extremely sharp and when properly pulled, the characters are completely opaque because the image is printed on both sides in perfect register. Transparent proofs of this kind are obtainable from most modern advertising typographers.

A regular type proof on paper stock may be mounted into position on the art work as a guide to the lithographer, who combines the transparency with the balance of his negatives or positives in the stripping operation.

Fototype Transparencies

The second method of composition introduced by Fototype is the transparency. Fototype transparencies are sharply printed letters on thin acetate, spot laminated to a cardboard backing. These letters too, are furnished in pad form and are so prepared as to assure alignment. When clear Scotch tape is applied to a line of letters assembled in the composing stick, the acetate is detached from the backing sheet and actually becomes part of the tape, forming a transparent film.

Photo-Typesetting

In keeping with the progressive march of scientific development in the Offset industry, the photographic typesetting machine is a natural outcome of a desire to produce a machine suited to the lithographic platemaking process, which is almost entirely photographic in nature.

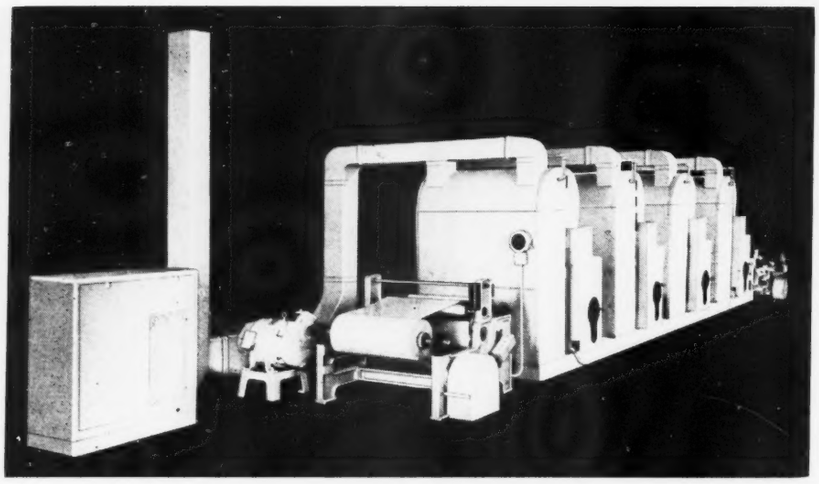
In appearance, Fotosetter announced by Intertype Corporation resembles a regular line-casting machine with a keyboard, automatic justification and automatic photographing unit. It is a full text and display composing machine with a selection of type faces.

Type characters are exposed directly upon photographic film with lines fully justified. The films are then delivered either in rolls or sheets ready for exposure to the metal plate. The type film composition may be considered as either a negative or positive depending upon the process selected, or whether the type is to appear black on white, or white on black in the finished print.

Corrections on any of the transparencies are made simply by stripping in a new piece of film.

Proofreading is done on a photo print.

(To be Continued)



A hybrid printing press announced by Crawford Engineering, Inc., so designed that it prints by two unrelated methods—offset gravure for one color, color and color process work and letterpress with rubber printing plates with a single (gravure) system of ink distribution. The press may be used to print wrappers, labels, insurance policies, packaging products, etc., according to the sponsor. Each of the four units of the machine, as shown in the above illustration, is a complete press in itself.

Dual Process Rotary Printing Press

THE development of a rotary high speed web printing press in which is utilized the principles from three printing processes—gravure, offset and letterpress, has been announced by Crawford Engineering, Inc., Sponsor states the hybrid press is so designed that it prints by two unrelated methods—offset gravure for one color, color and color process work and letterpress with rubber plates with a single (gravure) system of ink distribution. Principal uses for the press, according to the manufacturer, are for printing wrappers, labels, insurance policies, packaging products, etc.

The machine is arranged in units, each unit being a complete press in itself. This arrangement will produce as many colors as there are printing press units. The offset gravure unit consists of three cylinder components—the design cylinder which prints the image on an offset or transfer cylinder which in turn prints on the paper. In this unit, the web passes between the offset or transfer cylinder and a pressure cylinder.

The letterpress unit consists of three cylinder components—a gravure inking cylinder used as a plate cylinder inking mechanism which inks the rubber plate cylinder which in turn prints on the paper. In operation, the web passes between the rubber plate cylinder and an impression cylinder.

It is possible to convert a unit of the press from the offset gravure process to the letterpress process in 20 min., claims the sponsor. In carrying out this conversion, the gravure cylinder is removed, and replaced with what is called a cellmeter roller. This is a gravure cylinder, etched with an all-over screen pattern. This cylinder revolves partly submerged in the ink reservoir and, due to the fineness of the cells in the screened cylinder, acts as the rubber plate inking mechanism. An oscillating doctor blade removes surplus ink from the non-printing surface of the cylinder. The next step is to replace the offset or transfer cylinder with a printing plate cylinder on which are mounted the sticky-back rubber printing plates. This completes the mechanical changeover of the unit from the offset gravure to the letterpress process.

By combining two or more press units, manufacturer states it is possible to combine the printing by two processes and achieve a variety of effects with a single press run. For example, states sponsor, a printer has an order for 200,000 folders to be printed in two colors, but desires to imprint dealers' signatures on units of from 10,000 to 20,000. By combining three press units in the one run, the two colors can be printed by the offset gravure process and by utilizing the letterpress process for imprinting, the dealers' signatures can be printed by the rubber plate method.

Or, in printing labels, the offset gravure process can be used to provide pastel backgrounds with one kind of ink and then use a letterpress unit employing a different ink for the lettering.

The design cylinder on the offset gravure unit is etched to about one quarter the depth of normal gravure cylinders. This is because of the type of composition covering the transfer cylinder permits it to reach vertically into the gravure cells and remove all of the deposited ink.

The press will print on any kind of paper, claims the sponsor, using up to 150 line halftone screen gravure cylinders. Ink requirements are dependent upon printing requirements. Opaque, spirit and lacquer inks are used for printing on cellophane. Process or opaque inks are used for printing on foil or opaque materials, casein or clay coated papers, etc. Spirit, water emulsion, liquid vaporset or lacquer base inks are used for most paper and board stock.

Maximum nominal operating speed of the press is stated to be 750 f.p.m. Max. web width is 40 in. Max. printing width, 39 in. Unwinds and rewinds rolls up to 36 in. diam. Prints repeat lengths 15 to 36 in. and intermediate lengths in $\frac{1}{2}$ in. steps.

Each printing unit is equipped with a dehydrator type ink drying unit. Dehydration removes solvents to the depth of the ink layer. The dehydrators on the press can be adjusted individually for the required heat, moisture or cooling treatment which may be required by the ink in use.

Non-splash, semi-enclosed ink fountains are equipped with ink pump connections for ink circulation. The press is fitted with a 360 deg. radial register adjustment and also lateral color register and correction while the machine is idle or running. Web tension control is automatic and selective.

Standard equipment for the unwinder includes two unwind shafts fitted with core plugs to accommodate 3 in. cores, paper roll centering adjustment on unwind shaft, and automatic, selective, constant web tension control. Feed rolls are automatically regulated by web tension which is electronically synchronized with the press drive.

Standard equipment for each letterpress printing unit includes a plate cylinder fitted with 0.125 in. high bearers for mounting 0.130 in. thick sticky-back rubber printing plates. Also included is a cellmeter (all-over screened) inking cylinder with a fixed shaft and ink splash arrestors. Rewinder is electronically operated. Two rewind shafts with 6 in. core plugs are supplied.

New ATF Cleveland Branch

American Type Founders Sales Corp.'s Cleveland Branch will celebrate the opening of its new building with an open house and exhibit scheduled for March 29, 30 and 31, according to an announcement by Frank X. McCormick, Cleveland Branch Manager. The branch is located at 1530 E. 19th St., Cleveland 14. The new building, designed and built for ATF, comprises about 5500 sq. ft., with 4000 sq. ft. of parking facilities and a private drive. The showroom and offices at the front of the building are equipped with an acoustic ceiling, recessed fluorescent lighting and asphalt tile floor. On display during the open house will be a Kelly Three Press, the ATF-Hadego Photo Lettering Machine, a Little Giant Model 6 Press, a 14 in. by 17 in. Process Camera, and other equipment handled by ATF. Representatives of the Cleveland branch office who will assist Manager McCormick in demonstrating the equipment are Kenneth Gage, Mike Vukelich, Charlie Brooks, and Leo Doran.

Conference Dates *(with organization names and principal officers)*

American Photoengravers Association — 1950 Convention to be held at Chalfonte-Haddon Hall Hotels, Atlantic City, N. J., October 9, 10 and 11. W. K. James, President; Frank J. Schreiber, Executive Secretary, 166 W. Van Buren St., Chicago 4, Ill.

ANPA Mechanical Conference—1950 Conference to be held at Hotel Statler, Buffalo, N. Y., June 12, 13, and 14. Chairman of the Committee, Edwin H. Evers, Production Manager, St. Louis *Globe-Democrat*. Manager ANPA Mechanical Dept., Vernon R. Spitaleri, 370 Lexington Ave., New York 17, N. Y.

Fifth District Craftsmen's Conference—1950 Conference to be held at Commodore Perry Hotel, Toledo, Ohio, June 16 and 17. District Representative, Alvin F. Friedrich, 730 E. Washington Blvd., Indianapolis, Ind.; Deputy District Representative, John Morehouse, c/o Harris-Seybold Co., 4510 E. 71st St., Cleveland 5, O.; President, John E. Frisbie, The Blade Printing & Paper Co., Monotype Dept., Toledo, Ohio; Secretary-Treasurer, John Fisher, Superintendent, Reardon-Parshall Co., 466 Larned St., N.W., Detroit, Mich.

Great Lakes Newspaper Mechanical Conference—1951 Conference to be held in South Bend, Ind., January 7, 8 and 9. President, LeRoy Coates, Pressroom Supt., Grand Rapids (Mich.) *Press;* Secretary, Al. P. Oberg, Flint (Mich.) *Journal;* Chairman, Mfrs. and Suppliers Committee, Clay Wellman, Ludlow Typograph Co., 2032 Clybourn Ave., Chicago 14, Ill.

Illinois Newspaper Mechanical Conference — President Arthur Kramer, Joliet (Ill.) *Herald-News;* Secretary-Treasurer, William L. Augspurger, Peoria (Ill.) Newspapers, Inc.

Intl. Assoc. Electrotypers & Stereotypers — 1950 convention to be held aboard the ship Queen of Bermuda and the closing session ashore at the Princess Hotel, Bermuda. Ship departs from New York, N. Y., Saturday, October 28, 3 p.m. Return trip, boat docks in Bermuda on Friday, November 3 at 9 a.m. A. P. Schloegel, Executive Secretary, 701 Leader Bldg., Cleveland 14, Ohio.

International Association of Printing House Craftsmen—1950 Convention to be held at Hotel Stevens, Chicago, September 10, 11, 12 and 13. President, Russell J. Hogan, Plant Manager, Blanchard Press, New York, N. Y.; Executive Secretary, Pearl E. Oldt, 18 E. Fourth St., Cincinnati 2, Ohio.

International Typographic Composition Association—1950 convention, Chicago, Sherman Hotel, Sept. 14, 15 and 16. President, Frederick H. Lutz, Lutz Composition, 93 Centre St., Brockton 35, Mass.; Frank M. Sherman, Executive Director, 1015 Chestnut St., Philadelphia 7, Pa.

Iowa Daily Newspaper Mechanical Conference — 1950 meeting in Ottumwa, Ia. President, Howard (Red) Lee, Composing Room Supt., Ottumwa (Ia.) *Courier;* Secretary-Treasurer, Paul F. Kamler, Mechanical Supt., Clinton, (Ia.) *Herald*.

Kansas Newspaper Mechanical Conference — 1950 Conference to be held at Kansan Hotel, Topeka, Kan., September 30 and October 1. President, G. M. Harris, Salina (Kan.) *Journal;* Secretary-Treasurer, Larry Miller, 701 Jackson St., Topeka, Kan.

Lithographers National Association — 1950 Convention to be held at Edgewater Beach Hotel, Chicago, September 7, 8 and 9. President, Randolph T. Ode, President, The Providence Lithograph Co., Providence, R. I.; Executive Director, W. Floyd Maxwell, 420 Lexington Ave., New York 17, N. Y.

Missouri Newspaper Mechanical Conference — Secretary-Treasurer, O. K. Hammitt, Mechanical Supt., Moberly (Mo.) *Monitor-Index*.

National Association of Litho Clubs — 1950 convention to be held at Copley Plaza Hotel, Boston, April 14 and 15. Executive Secretary, William J. O'Holleran, Assistant Supt., Myercord Co., 5339 W. Lake St., Chicago 44, Ill.

National Association of Photo-Lithographers — 1950 Convention to be held at The Shoreham, Washington, D. C., October 25, 26, 27 and 28. Executive Vice President, Walter E. Soderstrom, 317 West 45th St., New York 19, N. Y.; Executive Secretary, William J. Stevens, 317 West 45th St., New York 19, N. Y.

National Graphic Arts Education Association — 1950 convention, Chicago, Sherman Hotel, Sept. 21, 22 and 23. John G. Henderson, President; Fred J. Hartman, Educational Director, 719 Fifteenth St., N. W., Washington 5, D. C.

National Graphic Arts Exposition—International Amphitheatre, Chicago, September 11 to September 23, 1950. Headquarters for National Graphic Arts Exposition, Inc., at Room 802, 105 W. Monroe St., Chicago. President, A. E. Giegengack; Asst. to President, Russell H. Herrell; Secretary, S. Frank Beatty, Graphic Arts Assoc. of Illinois, Chicago.

National Printing Equipment Association, Inc. — Palmer House, Chicago. Directors meeting, 8 p.m., Sept. 18; Members meeting, 10:30 a.m., Sept. 19. President, R. Verne Mitchell, Harris-Seybold Co., 4510 E. 71st St., Cleveland 5, O.; James E. Bennet, Secretary, 140 Nassau St., New York 7, N. Y.

New England Mechanical Conference — President, Arthur M. Kohler, Production Mgr., Waltham (Mass.) *News-Tribune;* Secretary-Treasurer, Walter C. Crighton, Comp. Room Supt., New London (Conn.) *Day*.

Northwest Mechanical Conference — 1950 Conference, Hotel St. Paul, St. Paul, Minn., March 11, 12, and 13. President, Joseph J. Cory, Chief Composing Room Machinist, St. Paul (Minn.) *Dispatch* and *Pioneer Press*. Secretary-Treasurer, Ralph Carson, Dunwoody Industrial Institute, Minneapolis, Minn.

Pacific Mechanical Conference—1950 Conference to be held at Fairmount Hotel, San Francisco, May 6, 7 and 8. President, Fred Gross, Mechanical Supt., San Francisco *Chronicle;* Vice President for the Pacific Northwest, Harry Hale, Production Mgr., Portland (Ore.) *Oregonian;* Secretary for the North, Edw. N. Conley, color press foreman, San Francisco *Chronicle;* Secretary for the South, Fred J. Moyer, Los Angeles *Daily News*.

Pacific Society of Printing House Craftsmen—Multnomah Hotel, Portland, Ore., July 21-22. Rudolph Ernst, President, 3664 S. E. Center St., Portland 2, Ore.; Secy.-Treas., C. B. Park, 102 N. W. 9th Ave., Portland, Ore.

PNPA-NJPA Joint Mechanical Conference—1950 Conference to be held at Hotel Claridge, Atlantic City, N. J., April 14 and 15. Conference director, Theodore A. Serrill, PNPA Manager, Telegraph Bldg., Harrisburg, Pa.

Printing Industry of America — 1950 convention, Chicago, Palmer House, Sept. 17, 18, 19 and 20. James R. Brackett, General Manager, 719 Fifteenth St. N. W., Washington, D. C.

Research and Engineering Council — Next semi-annual meeting to be held in Chicago (hotel to be announced later), Thursday, June 22, to be followed by trip to Institute of Paper Chemistry, where session will be held in Appleton, Wis., on Friday, June 23. Chairman, Frank F. Pfeiffer, Reynolds & Reynolds Co., 800 Germantown Ave., Dayton, O.; Secretary, Bernard Taymans, 719 Fifteenth St., N.W., Washington 5, D. C.

SNPA (Eastern Div.) Mechanical Conference—Chairman, L. H. Pickens, Mechanical Supt., Greenville (S. C.) *News-Piedmont;* Secretary, Tom Tanner, c/o SNPA, P.O. Box 1569, Chattanooga 1, Tenn.

SNPA (Western Div.) Mechanical Conference—Secretary, C. W. Tabb, 621 Texas Bank Bldg., Dallas, Tex.; Chairman, Manufacturers' and Suppliers' Committee, William Sefton, c/o Howard Flint Ink Co., 1010 Lockwood Dr., Houston 20, Tex.

Technical Association of the Lithographic Industry — (TALI)—1950 meeting to be held April 24 and 25 in Rochester, N. Y. President, Michael H. Bruno, Lithographic Technical Foundation, Glessner House, 1800 So. Prairie Ave., Chicago 16, Ill. Secretary-Treasurer, Geo. W. Wilhelm, 814 N. East Ave., Oak Park, Ill.

Success Assured

THE management of the Sixth Educational Graphic Arts Exposition to be held in the International Amphitheatre in conjunction with a number of conventions, Sept. 11-23, has announced that the financial success of the project is assured. The statement has been publicized that sales of booths already exceed in dollars all expenditures budgeted by the Board of Directors who represent all branches of the Graphic Arts. With a complete sell-out of exhibition spaces assured the management is considering carefully how to allocate the comparatively few remaining booths to exhibitors who will add value to the whole exposition. More firms than can be accommodated at the big show have hinted that they will want exhibition spaces but for varied reasons have not actually signed contracts. Communications are being sent to them concerning the near-completion of the sale of booths.

Preservation of Bookbinding Leather

THE suitability of modern leathers as a medium for bookbinding has been questioned in recent years on account of their surprisingly short life. It has been known that sulphuric acid is present in badly decayed, vegetable tanned leathers due to absorption of sulphur dioxide from the atmosphere. A gradual and cumulative reaction results in their eventually containing sufficient sulphuric acid to cause decay. It is no safeguard, therefore, to use only leather which is guaranteed free from sulphuric acid as it will in time absorb this acid from the atmosphere.

Advances in the knowledge of the causes of disintegration of leather bookbindings have been made in recent months through the investigations of the British Leather Manufacturers Research Association. Suitable accelerated decay tests, as well as protective treatment with suitable chemicals, have been developed. It was established that leather is adequately protected from chemical decay when treated with a 7 per cent aqueous solution of potassium lactate. This treatment confers durability and insures that the leather will survive the test which was developed to simulate accelerated aging. Leathers which are not protected by this treatment warp, crack, shrink, and may actually become powdery and pin-holed after being subjected to this test for only a few days.

Tests were conducted at the Government Printing Office on domestic and foreign leathers of goatskin, cowhide, and sheepskin. Samples of these leathers were divided into two groups, one of which was treated with potassium lactate solution and the other was untreated. Both groups were then treated with a normal solution of sulphuric acid which gave them an air-dried acid content of 5 per cent. The leathers were then subjected to accelerated rotting with hydrogen peroxide solution. At the end of a six-day period of this treatment, both groups of leather were examined. All of the samples treated with potassium lactate were found to be unaffected, whereas those which were untreated were in a bad state of decay.

As a result of this investigation, all goatskin, cowhide, and sheepskin bookbinding leathers now used in the GPO are treated and protected with the potassium lactate solution.—**M. S. Kantrowitz, Chairman, Research Committee, Washington (D. C.) Club of Printing House Craftsmen.**

Bagasse Paper Introduced to Industry

PAPER manufactured from bleached pulp produced wholly from bagasse, the waste of sugar cane after the sugar content has been extracted, was introduced to the printing industry recently. To commemorate the new development in papermaking, a special 8 page section of the Holyoke (Mass.) *Daily Transcript-Telegram* was printed for the January 26 edition on bagasse paper which included photos of officials and papermakers who participated in the research program as well as considerable editorial mention of the Bagasse project.

Responsible for the Bagasse development was the Kinsley Chemical Co. of Cleveland, with the mechanical collaboration of the Noble and Wood Machine Co. of Hoosick Falls, N. Y. The test runs were made in the mill of the Chemical Paper Mfg. Co. of Holyoke, Mass.

According to E. R. Timlowski, Technical Director of the Kinsley company and creator of the Bagasse pulp, the process conserves the maximum length and strength of the bagasse fibers, and does not degrade them. In other attempts at producing paper from bagasse, it frequently has been in the separation process that the character of all the fibers has been degraded. The goal of practically all of these efforts has been to separate the component fibers which have dissimilar characteristics.

The bleached bagasse pulp gave a yield well over 50 per cent of the raw bagasse as it entered the cooking process, stated C. J. Yarber, General Superintendent of the Chemical Paper Mfg. Co.'s mill. The unbleached pulp showed a yield of well over 60 per cent of the raw bagasse used. Although the recent trial run was directed toward a paper suitable for newsprint, Mr. Yarber said that it was apparent that paper manufactured from this waste product can be used for the better grades of paper such as book paper, coating base stock, etc.

Joseph Glenn Weimer, Director of International and Bagasse activities of the Kinsley firm, commented that the bagasse paper upon which the special edition of the *Transcript-Telegram* was printed, while it had undergone the customary laboratory tests, was not routed to paper experts for comparative evaluations with groundwood and sulphite newsprint. The press run was to determine if the product possessed the general characteristics demanded of a newsprint paper, the tear and tensile strength necessary to resist the high speed of rotary printing presses, color, ink receptivity, opacity, etc.

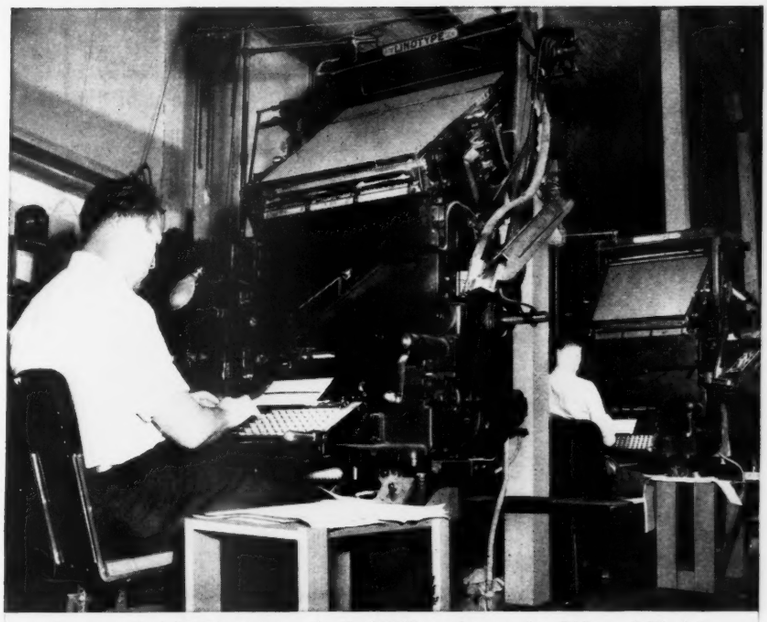
Subsidiary divisions of the Kinsley Chemical Co. are prepared to engineer, construct and install bagasse pulp and paper mills in any part of the world and to direct their operation. Bagasse pulp can be utilized, it is claimed, for a wide and general line of paper products from board and newsprint to fine book grades.

Cost Minded Printers

(Abstracted from an address delivered by Steven N. Hutins, Printing Plant Consultant, Miehle Printing Press & Mfg. Co., before the Printing Accountants Club, New York, N. Y., February 1950.)

PRINTERS today are becoming more cost minded than ever before, developing an analytical approach to production problems and making a great effort to operate a plant efficiently. Printers who refuse to recognize the economics of operating old equipment are committing industrial suicide by continuing to operate presses which should have been disposed of long ago. Based on experience over many years, presses have a relatively short profitable life. The capital invested in a press should be fully recovered from its earnings, however, before it is replaced or made obsolete by a new machine. The current economic era competition is becoming increasingly keen among printers. Printers must not only compete with each other, but with other media for the advertising dollar. In order to make a profit, plant management must maintain large volume, good prices, and efficient operation in all processes of manufacture.

How two new Linotypes enable Virginia firm to handle 80% more sales volume



Two new Model 33 Linotypes at the Keel-Williams Corporation, Richmond, Virginia

"Our new Linotypes enable us to get more work and produce it on a shorter schedule. We couldn't handle the business without the new 33's."—J. D. WILLIAMS

"After we had installed our first Model 33 Linotype, production took a big jump. It was just plain good sense to put in the second one."—H. K. KEEL

In 1945, the Keel-Williams Corporation of Richmond, Virginia purchased a plant equipped with three composing machines all over 25 years old. In order to set the composition needed, these three old machines ran 8 hours per day, and most display sizes were hand set.

In May, 1948, a Model 33 Linotype was installed and in January, 1949, another Model 33 was added.

How Two Model 33's Increased Plant Capacity—On the new Model 33's with their wide magazines, both text and display matter are composed with equal ease and economy. Hand setting has been virtually eliminated. While the Keel-Williams Corporation now has one less composing machine and a sales volume 80% greater than in 1945, the two new Model 33's are operated only 8 hours per day. Duplex-Display matrices are used to double the number of faces at the operator's fingertips. To provide maximum composing-room efficiency Self-Quadders are also used. Today, 99% of all the firm's composition is machine set, including display matter. It is easy to see how Keel-Williams Corporation is now able to handle a much wider range of jobs with fewer machines and less operating time.

New Machines Slash Parts Costs—From 1945 to 1947, annual maintenance costs for parts were $233 per old machine, and the Keel-Williams staff made practically all their own repairs. The cost of down-time and loss of sales were impossible to calculate. It is estimated that the new machines are paying for themselves from parts savings alone.

Steadier Production—The new machines are saving time all around. Slugs are parallel, uniform, type-high and solid. Make-up and stone work are quicker. Forms do not belly in lock-up and practically all forms lift the first time. Make-ready is quicker, easier. This enterprising Virginia firm has been able to run as many as 125,000 impressions directly from the slugs with good commercial printing results.

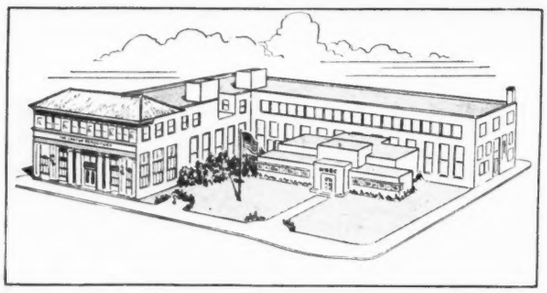
You, Too, Can Cut Costs With New Linotypes—We suggest that you convert the cost of maintaining old equipment to an investment in new Linotypes. Remember, Linotypes save money in composition, make-up, lock-up, makeready, press work handling, and produce higher quality results in less time. Let's get together and determine which Linotype equipment is best suited to handle the needs of your composing room most efficiently.

LINOTYPE
TRADE MARK

Leadership Through Research

MERGENTHALER LINOTYPE COMPANY, 29 RYERSON STREET, BROOKLYN 5, NEW YORK

Linotype Corona and Members of the Spartan and Erbar Families



Million Dollar Expansion—The Canton (O.) *Repository* has announced it will enter upon a million dollar expansion program that will add materially to its space and equipment facilities and make possible the production of a better newspaper at higher speed. The illustration is an artist's drawing of how the *Repository* building will look when the program has been completed. In addition to the installation of a seven unit Goss Headliner press for black and multicolor printing, a modern, fireproof, three-story addition will be constructed to its present building. Included in the plans are a new and expanded mailing room, doubled quarters for the service department, four new offices and a third floor for future expansion. The press will be installed on a bed containing 3 in. of natural cork, covered top and bottom by 2 ft. thicknesses of concrete. The mailing room will be on the present main floor level and will be separated from the pressroom by an observers' gallery. Wood block flooring will be used in this department.

Facilities for Equipment Exhibitors

At the forthcoming National Graphic Arts Exposition to be held in Chicago's International Amphitheatre, Sept. 11-23, every facility will be available to exhibitors so they can set up their largest machines and all other equipment, regardless of bulk or weight, with minimum handling. The largest motor trucks being utilized anywhere can enter the back door of the Amphitheatre and drive on the 17 ft. wide roadway to any part of the exhibition halls of 3A. on the ground floor. Railroad switch tracks make it easy to unload the machinery at the back door. Because of the need for assembling and positioning the huge machines so they will be in running order for the opening of the big show on September 11, the Amphitheatre has been leased by the Exposition management for a total of five weeks—two weeks to get ready; two weeks for the show; and one week to clear the premises.

PNPA-NJPA To Meet in April

With 21 newspaper mechanical and production executives in attendance, the PNPA and the NJPA Mechanical Committees met recently to complete plans for conducting the Annual Joint Mechanical Conference in April. The conference, which is expected to attract an attendance of more than 500 from the Middle Atlantic states, will be held on Friday and Saturday, April 14 and 15, at the Claridge Hotel, Atlantic City, N. J.

Paul V. Driscoll, Mechanical Supt. of the Connellsville (Pa.) *Courier*, is in charge of the program, with Donnell P. Shortell, Mechanical Supt. of the Asbury Park (N.J.) *Press*, heading the cooperating New Jersey group.

Chairman of the photography and photoengraving session to be held on Friday morning is J. R. Cubbison, Mechanical Supt. of the Sharon (Pa.) *Herald*, who will be assisted by co-chairman Wayne R. Schrott, General Manager of Conemaugh Engraving Co., Johnstown, Pa. Presiding over the pressroom session will be Ralph R. Cranmer, Business Manager, Williamsport (Pa.) *Grit*, and Rudolph Kuhner, Pressroom Foreman, Sharon (Pa.) *Herald*.

Stereotype Foremen Nicholas Martorella, Camden (N.J.) *Courier-Post*, and Dorando Melegari, McKeesport (Pa.) *Daily* News, will be in charge of the stereotype session. The composing room session will be presided over by Hans E. Rosberg, Mechanical Supt., Norristown (Pa.) *Times-Herald*, and Claude E. Schell, Composing Room Foreman, Reading (Pa.) *Eagle-Times*. Chairman Paul G. Donahue, Mechanical Supt., Coatsville (Pa.) *Record*, and Co-chairman William C. Jones, Mechanical Supt., Salem (N.J.) *Sunbeam*, will be in charge of a session devoted to smaller-city newspaper problems.

Some of the speakers and their topics listed on the tentative program include Harry W. Sherman, Mechanical Supt., Allentown (Pa.) *Call-Chronicle*, who will speak on *Our Composing Room Lighting Installation*. George T. Wegemer, Mechanical Supt., St. Marys (Pa.) *Press*, will discuss *Press Efficiency and Maintenance*. Scheduled to speak on *Improving Production* at the composing room session is W. R. Coddington, Composing Room Foreman at the Youngstown (O.) *Vindicator*.

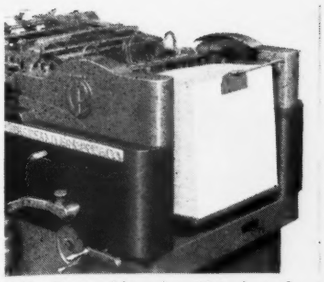
ITCA Eastern Conference

Frank M. Sherman, Executive Director of the International Typographic Composition Association, has announced that the ITCA 1950 Biennial Eastern District Conference will be held at the Hotel New Yorker, New York on April 21 and 22. The purpose of the conference, according to Mr. Sherman, is to afford an opportunity to ITCA members doing business in eastern cities to gather together for a discussion of matters of mutual interest and concern. The program includes a visit to the factory of Intertype Corporation in Brooklyn, N. Y., to witness a working demonstration of the Fotosetter. Mr. Sherman stated that all composition plant owners, whether members or non-members of the ITCA, are invited to attend the conference and to participate in its activities.

NALC Meets in Boston

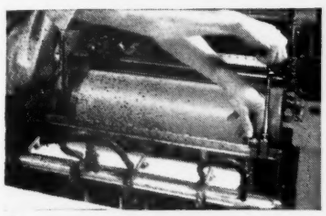
The Fifth Annual Convention of the National Association of Litho Clubs will be held at the Copley Plaza Hotel in Boston on Friday and Saturday, April 14 and 15. According to James F. Beldotte, President of the Boston Litho Club and head of the convention committee, the two day meeting will include many nationally known speakers, shop talk, NALC business, and other interesting features. The committee working with President Beldotte includes Charles E. Mallet, Rand Avery-Gordon Taylor and president of the NAPL; Edward W. Harnish, Buck Printing Co., NALC vice president and secretary of the Boston Litho Club; Merrill N. Friend, Spaulding-Moss and treasurer of the Boston Litho Club; William S. Law, New England Manager, International Printing Ink Co.; John F. Raymond, Storrs & Bement Co., and Tom Tierney, Publisher, *New England Printer & Publisher*.

H-S Midwest Office — Playing host to some 400 printers and lithographers in St. Louis recently, Harris-Seybold Co. celebrated the opening of its new Midwest branch office at 2636 Locust St. The feeder end of a 21 in. by 28 in. Harris offset press is shown being explained to a group of visitors by Don Geralds, Harris press erector. Also on display during the open house were a Series "Sixty" Seybold paper cutter, lithographic chemicals and the Harris Deep Etch Kit. Several Harris-Seybold color and sound movies were shown for the occasion. The St. Louis office is under the direction of James G. Willis.

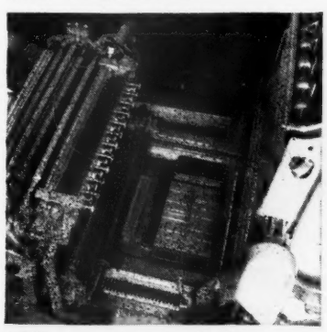


● Feeding table takes 18″ of stock at one lift. Quickly lowered for reloading and readily adjusted for automatic advancement.

● Cylinder is completely accessible for makeready without removing a single press part. Tympan clamp is opened and closed by a single motion. Grippers are locked open when making ready.



● Press is equipped with micrometer side register adjustment. Once set, this register remains constant, regardless of speed or length of run.



● When press is open, the form is completely accessible and can be unlocked and relocked directly on the press bed (when making imprint changes for example).

● Lifting the hinged roller carriage exposes fountain and distributing rollers. Fountain opens up completely for quick wash-up.

THE CHANDLER & PRICE CYLINDER PRESS

● Adjustability . . . flexibility . . . dependability . . . speed . . . and modern, streamlined appearance aptly describe this press—a press for fast production with accurate register, clean, sharp impression, and full ink coverage obtained by positive sheet control and accurately controlled ink distribution.

Designed especially for high production at low cost, to meet today's keen competition, the C & P Craftsman Automatic Cylinder Press handles stock from onion skin to 4-ply cardboard. Sheet sizes may range from 3¼″ x 5½″ up to 12¼″ x 18½″, with actual production speeds as great as 4800 impressions per hour. Handles envelopes, also, without any special attachments.

Forms are completely accessible from either side of press and can be registered with micrometer side register adjustment which maintains positive register regardless of speed or length of run. Cylinder is completely accessible for makeready without removing a single press part. Press stops automatically if sheet fails to feed or deliver properly.

Here is one press that is truly a profitable investment for any plant—large or small. And it delivers quality work of which any plant can be proud. Write for complete details.

EXHIBITOR
GRAPHIC ARTS EXPOSITION
CHICAGO · SEPTEMBER 11-23-1950

THE CHANDLER & PRICE COMPANY
CLEVELAND, OHIO

MANUFACTURERS OF PRINTING MACHINERY FOR OVER 60 YEARS

Swift Engineering Co.

John B. Swift, who, for a number of years, has been associated with Morton L. Pereira & Associates, Chicago architects and engineers, has formed a new

John B. Swift, President of Swift Engineering Co., a newly formed organization.

organization which is called Swift Engineering Co. Mr. Swift is president. The company has headquarters in the Engineering Building, 205 W. Wacker Drive, Chicago 6, Ill. Mr. Swift states it is the object of the new company to furnish newspaper plant engineering knowledge to be used cooperatively by local architects in cities where the new plant is being erected for a publishing company.

PNPA Head Passes

William N. Hardy, General Manager of the Pennsylvania Newspaper Publishers' Association for 21 years, passed away on February 27 at the Polyclinic Hospital, Harrisburg, Pa., after an illness of three months. Death was attributed to a heart condition. Formerly make-up editor of the New York *Herald Tribune*, Mr. Hardy joined the PNPA in 1929. He is credited with the establishment of Newspaper Week and served as first national chairman of this activity. Starting his newspaper career with the Amesbury (Mass.) *Daily News*, he later became associated with a number of Eastern newspapers. Mr. Hardy is survived by his wife and three nieces.

Carnegie Catalog

The Department of Printing Administration at Carnegie Institute of Technology has issued a 28 page catalog in which is described the course offered to students. The course consists of a college program of instruction in the Graphic Arts designed to offer training for junior executive positions of managerial and production responsibility. Information contained in the catalog tells of the requirements for admission, entrance dates, men's living accommodations, the cost of a year at Carnegie, graduate and undergraduate curriculum, description of courses, extracurricular activities, equipment used by the department and scholarships. New students entering the Department of Printing Administration will be admitted at the beginning of the Fall semester.

Annual TALI Meeting

The second annual meeting of the Technical Association of the Lithographic Industry will be held in Rochester, N. Y., on April 24 and 25 at the Hotel Sheraton, according to Michael H. Bruno, Research Manager of the Lithographic Technical Foundation, Inc., and President of TALI. The Rochester meeting will consist of four technical sessions, a business meeting and a dinner on the evening of the second day. The dinner meeting will feature a talk by Dr. C. E. K. Mees, Vice President and Director of Research, Eastman Kodak Co.

Formal papers (presentation to be followed by discussions) will be delivered by W. P. Greenwood, Forbes Lithograph Co.; L. Pollner, LTF; J. A. C. Yule, Eastman Kodak Co.; M. C. Rogers, R. R. Donnelley & Sons; D. N. Adams, Harris-Seybold Co.; P. J. Hartsuch, LTF; W. Clark, Eastman Kodak Co.; G. L. Gillingham, Harris-Seybold Co.; A. C. Zettlemoyer, National Printing Ink Research Institute; C. H. Van Dusen, Addressograph-Multigraph Corp.; R. F. Reed, LTF; W. V. Gough, General Electric Co.; D. M. Cumming, Rochester Institute of Technology and W. E. Griswold, LTF. Other speakers are expected.

There will be a nominal registration fee. Invitations are extended to all regardless of membership. Information may be obtained from G. W. Wilhelm, TALI Secretary, 814 N. East Ave., Oak Park, Ill.

Monomelt Appointed Distributor

The Monomelt Co., Inc., has been appointed processing distributor for Bakelite plastic matrix sheeting according to a recent announcement. John W. Thompson, President of Monomelt, stated that with the addition of plastic sheeting, Monomelt will be able to serve publishers, envelope makers, paper converters and rubber stamp makers throughout the Mississippi Valley. The Monomelt company is being equipped with spray booths and high speed processing equipment to handle the new distributorship.

Not Revolutionary

"Current talk about trends in the Graphic Arts industry," said Thomas Roy Jones, President of American Type Founders, Inc., in a letter to ATF stockholders, "no doubt arises from the fact that the industry today is beginning to reap the benefits of technological developments under investigation for many years. Contrary to popular belief, however, these developments are really more evolutionary than revolutionary. They are important stepping stones in a continuous path to better performance and better products. We are putting out a new group of photo-mechanical machines for the gravure printing field. We are also introducing three machines for the photographic setting of display type."

Perfex Color Process Printing

FOR some time there has been a growing demand for color process printing in limited quantities at what the prospective buyer terms "a reasonable price." In other words, there is a demand for short-run color process printing which may be used as inserts in books of limited circulation, sales portfolios, brochures, displays, and other kinds of printing in smaller quantities.

What is touted as the answer to the demand is called Perfex Color Process. It is claimed that the process fits any press run from 50 copies to 10,000 copies.

Manager Dale D. Karstaedt of Perfex Color Process Div., Perfex Corporation, states the photographic process was developed during World War II. Basically, it is a letterpress relief printing process. In it is utilized colloidal (plastic) surface halftone plates. No etching materials nor gelatine are employed. Printing is done on Miehle Vertical presses.

Halftone screen used in preparation of the plates usually is 150 line, but if subject permits, a 200 line screen may be used. Work may be produced from Kodachrome color transparencies, full color art work or direct color separations. Preparation of plates from Kodachrome and full color proofs cost $175 for an image area up to 7¼ in. by 9¼ in., printed on an 8½ in. by 11 in. sheet. Prints amount to 3c to 5c each depending on quantity. Imprinting of type, punching and binding extra. Kromekote cover stock or folding enamels are used. The job we viewed was printed on 65 lb. Kromekote.

The plates are not supplied separately but a complete printing job is furnished, including type matter, folding, punching and binding.

Extra operations such as special corrections may be had in addition to normal masking. Two or more Kodachromes may be stripped together on one plate. There is no stripping of text matter. No panel type blockouts are possible.

Celebrates Third Anniversary

Linotype Parts Co., Inc., the first industry to locate at the Bergen County Industrial Terminal in South Hackensack, N. J., celebrated its third anniversary at that location on March 1. Isaac Bendow, President of Linotype Parts, said that moving part of the plant from Weatherly, Pa., to South Hackensack has proved advantageous in many ways. The firm employs about 60 persons at the latter plant.

New Address

Syntron Company, Homer City, Pa., manufacturers of vibratory material Handling and other equipment, announces removal of its New York Sales and Engineering Office, from its old address in Long Island City to 1860 Broadway, New York 23, N. Y. The new telephone number is JUdson 6-1507.

Amazing Results from ROCKET ROLLERS

READ WHAT USERS SAY!

"Seems to me the ROCKET rollers will be good for about 18,000 miles and regardless of numbering machines, type metal rule and steel perforating rule, they don't have a scratch on them." . . . Charlton Heights, West Virginia.

"ROCKET rollers are very satisfactory on all jobs and I would never use a composition roller again." . . . Deer Creek, Illinois.

"Have used them every day since they were received on December first. As yet they show no signs of wear. We are well pleased with them." . . . Cleveland, Tenn.

"This is a repeat order on ROCKETS. We are all equipped now with these swell rollers." . . . Rochelle, Illinois.

Beginning in October, printers started buying these amazing new synthetic rollers for their job presses and small high-speed machines. After four to five months' usage, let them tell you what they think of ROCKET rollers.

These and many other comments received with repeat orders indicate the reception ROCKETS received in the small press field.

YOU TOO, CAN PROVE THESE STATEMENTS IN YOUR OWN PLANT

IDEAL ROLLER & MANUFACTURING CO.
2512 West 24th Street, Chicago 8, Illinois
21-24 Thirty Ninth Ave., Long Island City 1, N. Y.

Ideal Roller and Manufacturing Company

Send me the following ROCKET rollers

- ☐ Miehle Vertical (plain core*) ROCKETS @ $4.25 each
- ☐ 10 x 15 C & P - ROCKETS @ $3.50 each
- ☐ 10 x 15 Craftsman ROCKETS @ $3.75 each
- ☐ 10 x 15 Kluge ROCKETS @ $4.00 each
- ☐ 8 x 12 C & P - ROCKETS @ $2.90 each
- ☐ 12 x 18 C & P - ROCKETS @ $4.00 each
- ☐ 12 x 18 Craftsman ROCKETS @ $4.25 each
- ☐ 12 x 18 Kluge ROCKETS @ $4.50 each

*Grooved for Oilite Boxes

West of Rockies add 30c per roller

Prices include cores, boxing and transportation. Sorry, no C.O.D.'s

I am enclosing my check ☐ (add State sales tax) money order ☐ (add State sales tax) or charge to my account.

CREDIT REFERENCES:

1. _____ Name _____

2. _____ Address _____

Date _____ City _____

Patents

For The GRAPHIC ARTS

Covering patents issued January 3, January 10, January 17, January 24 and January 31.

Binding, Cutting, Perforation

2,494,075. A PAPER JOGGER is mounted in a metal floor model cabinet which is supported by four rubber feet. A stack of paper to be straightened for trimming, etc., is placed on a rigid deck. The deck is connected to the cabinet by means of steel or rubber springs. The deck is vibrated by a vibratory motor having an armature and an electromagnetic field. One motor part is secured to the deck and the other to the base so as to provide magnetic coupling therebetween to vibrate the deck and jog both sides of the paper stack simultaneously. Invented by Carl S. Weyandt, Homer City, Pa. Unassigned. Application March 18, 1946. 3 claims.

2,494,242. ADJUSTABLE ROTARY TABLE. A gathering table is disclosed. It may be used in the printing industry for gathering and sorting printed material into folios and then into books. The table has a horizontal work holding top rotatably mounted on a central upright supporting beam. It includes an improved adjustable bearing and supporting structure adapted to hold the rotatable top in its normal operating position regardless of unbalanced work loads thereon and to permit minor adjustments for leveling the table top. Four hinged segmented portions permit table to be converted to a square table so as to occupy less floor space when not in use. Invented by John N. Hardy, Coldwater, Mich. Assigned to Roto-Cast Foundry Equipment, Inc., Coldwater, Mich. Application February 5, 1948. 2 claims.

All new patents for the Graphic Arts are reported exclusively for Printing Equipment Engineer by Invention, Inc., an industrial patent research organization in Washington, D. C. Invention, Inc., presently has the only staff in the country that examines, in the U. S. Patent Office, the complete printed copy, drawing by drawing and page by page, every one of the several hundred new patents issued each week. Printing Equipment Engineer is the only trade publication in its field offering a report based on this complete coverage. For copies of the patents listed here specify the patent numbers and send 25c for each separate patent, or 10c for each trade mark or design patent (stamps not accepted) to the Commissioner of Patents, Washington, D. C.

2,494,421. PRINTER'S PADDING PRESS can be tilted to receive a pile of pads so that they will align by gravity against a backboard to provide a padding surface. The tilting portion of the device with its clamped pads may be lifted, by means of a cross rod, from the base and be set aside to dry. A new platform may be then set in position and new pile of pads processed. Invented by Norman Adelsohn and Alfred Calone, Denver, Colo. Unassigned. Application May 11, 1948. 6 claims.

2,495,659. MACHINE FOR DIE-CUTTING PAPER. Improvements in label cutting or trimming machines of the class utilized in die-cutting printed stacks of labels, booklets, calendar pads, etc., are disclosed. The improvements may be incorporated in the machine disclosed in Patent No. 2,483,735, which issued to the same inventor as this present patent. The present invention provides spring-pressed guide elements associated with guide parts in such manner that adequate clearance is provided at the lower portion to facilitate feeding stacked work sheets, but which take up this clearance as the upper portion of the stack approaches the cutting edge of the die, thus aligning the face of the label with precision relative to the cutting edge of the die. Invented by E. F. Noell, Cincinnati, O. Assigned to The Printing Machinery Co., Cincinnati, O. Application March 25, 1948. 9 claims.

2,496,211. AUTOMATIC THREAD CUTTER AND REGISTER MEANS FOR BOOK SEWING MACHINES. Machine includes a hopper in which the gathered signatures or books are stacked. Books are advanced one at a time beneath the sewing needle. A novel cutter includes upper and lower rotating cutting wheels adapted to grasp the sewn signatures therebetween at certain intervals and sever the threads at top and bottom quickly and completely. Drive mechanism is provided for actuating the infeed, the sewing operations and the cutting operations in accurately timed relation. Machine is adjustable to receive books of different sizes and the cutter unit is automatically self-adjustable to variations in book thickness and similar irregularities. Invented by William B.

WHEN YOU WANT INK TO DRY Faster
Doyle Sheet Dryer on a Kluge Automatic.
Doyle Sheet Dryer on a Cottrell Rotary.
USE DOYLE INFRARED
Sheet Dryers

Doyle Sheet Dryers work at full efficiency when facing down, up, to the right or to the left. Thus they can be mounted at any desired location, wherever they will provide most conveniently the *high temperature* radiant heat that speeds up ink-setting, cuts down offsetting and aids in the control of static.

Whether you operate cylinder, platen, rotary, offset, gravure, newspaper or specialty presses, also ruling or coating machines or folders, Doyle Sheet Dryers will help you solve your problems. Write for complete information.

Manufacturers also of Doyle Vacuum Sheet Cleaners

Hildmann, Chicago, Ill. Assigned to Brock and Rankin, Chicago, Ill. Application June 8, 1944. 25 claims.

Composing Room Equipment

During the five weeks covered by this report, no patents have been issued for this heading.

Feeding, Folding, Delivery

2,492,968. THE COMBINED SEVERING AND CLAMPING DEVICE is for severing webs in printing presses, coating machines and the like. When long webs of material are being handled it is desirable to sever the web in event of its breaking or tearing to prevent the web entangling in the conveying and printing or coating assemblies. By means of the device the approaching edge of the web is securely clamped against continued movement and "wrap-up" is prevented. Operating means for severing and clamping device include a spring-loaded member arranged to be released within a very short time after a break in the web and to become immediately effective to sever the web and clamp approaching edge thereof. Invented by Otha Cooksey, Louisville, Ky. Assigned to The Collmar Corp., Chicago, Ill. Application June 3, 1946. 15 claims.

2,493,410. APPARATUS FOR FOLDING PAPER SHEETS is disclosed which automatically takes a sheet of paper, either imprinted or plain, from a supply and folds it. The apparatus may be used in folding a broadside into proper size for use in a mailing envelope. It includes a supporting platform for stacked sheets, a pair of creaser rolls slidably supporting the sheets, and frictionally adherent strips longitudinally extending on both rolls at a single interval of their periphery but below the latter to together intermittently grip the lowermost sheet of the stack to pull the sheet toward the rolls to bend the sheet double between the creaser rolls. Invented by Edgar J. La Cour, St. Louis, Mo. Assigned to Orchard Paper Co., St. Louis, Mo. Application September 7, 1945. 2 claims.

2,495,261. PRINTING MECHANISM. The sheet feeding and delivery mechanisms in a printing press of the bed and cylinder type are constructed so that both mechanisms may be on the same side of the cylinder. This arrangement leaves the cylinder open on its opposite side. As a result it is readily accessible for adjustment of parts and also the inking mechanism for inking the type form on the bed may also be located on the open side so as to be equally accessible. Sheet is taken from the cylinder while the latter is rotating in the same direction as during the printing operation proper, i. e., before reverse rotation of the cylinder begins. Accordingly, direction of movement of the sheet is not reversed but the same edge continues as the forward edge throughout its path of travel through the press. Invented by Joseph F. Jirousek, Cleveland, O. Assigned to the Chandler and Price Co., Cleveland, O. Application March 29, 1945. 11 claims.

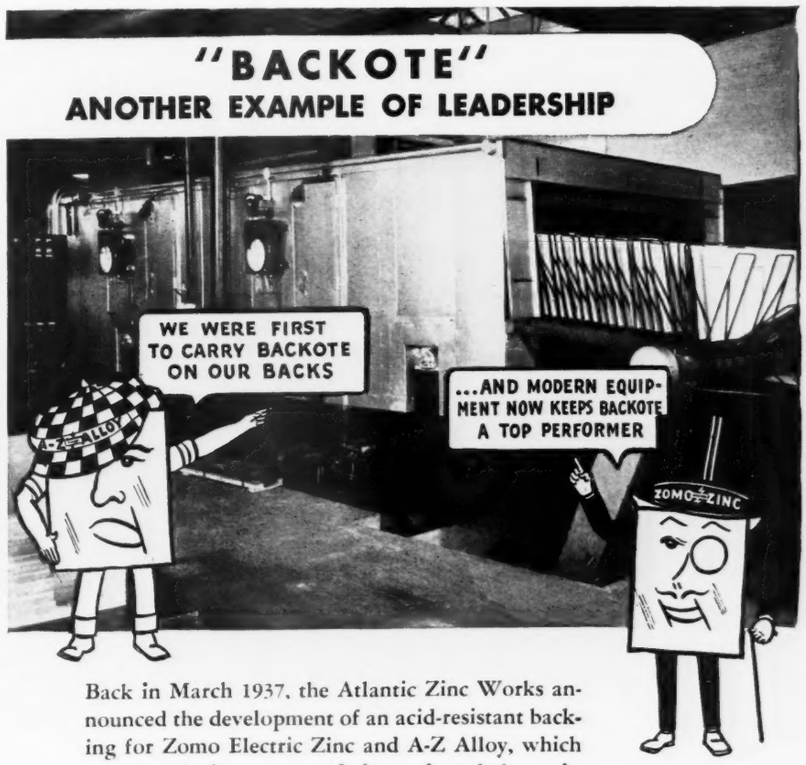
2,495,909. CROSS ASSOCIATION OF WEBS. A novel arrangement is shown for cross associating webs of paper from one row of printing press units to an adjacent parallel row, and from there to a common folder in which the webs are folded, severed, stacked and delivered therefrom for public use. The usual multiplicity of angle bars and guide rolls are eliminated. The use of "balcony leads" for bringing the specific side of a printed web into the proper arrangement over a folder is also eliminated. The invention provides instead for a straight-forward movement of the running web, whereby the uppermost printed side of the web as it leaves a press unit will be the uppermost side as it passes over drag roll to the folder. Invented by William P. V. Ross, Battle Creek, Mich. Assigned, by mesne assignments, to Goss Printing Press Co., Chicago, Ill. Application June 13, 1944. 11 claims.

Miscellaneous

During the five weeks covered by this report, no patents have been issued for this heading.

Plate Making

2,493,838. PHOTOPRINTING PROCESSES. A plate carrying a gelatin emulsion with a grained or toothed surface is immersed for several minutes in a solution containing formaldehyde and aminoacetic acid. The formaldehyde acts as an agent for artificially ageing or hardening the gelatin, and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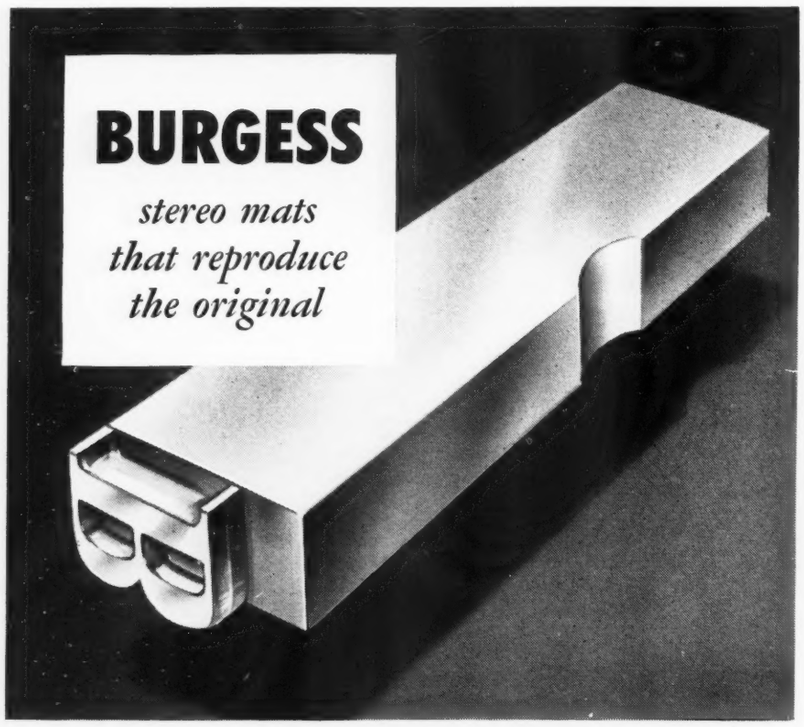
the acid acts to neutralize the residual formaldyhyde remaning in the emulsion. Plate is rinsed in clear water, treated in a bichromate bath, and again washed. Plate is then ready to be used in a printing press to produce thousands of prints without loss of detail. Invented by Bennett F. Terry, Stamford, Conn. Unassigned. Application July 19, 1945. 2 claims.

2,495,269. MACHINE FOR PREPARING LITHOGRAPHIC OR OTHER PRINTING PLATES, as well as rubber sheets used in offset printing, makes it possible to complete the grinding process in reduced time. It includes a rotatable drum to which the printing plate or rubber sheet is clamped. There is a housing for the drum. One or more sand blast nozzles are directed towards the drum and are adapted to be moved back and forth so as to cover the entire printing plate, while ejecting sand or the like onto the plate. A uniform surface grain is obtained. Suction means are connected to the housing and maintain a sufficient sub-atmospheric pressure therein to prevent dust from emerging into the surrounding area. Invented by Johan Gunnar Lindmark, Stockholm, Sweden. Assigned to Aktiebolaget Johnson and Borsell, Stockholm, Sweden. Application January 25, 1946; in Sweden, January 26, 1945. 8 claims.

2,495,529. THE GAUGE is for the preparation of negatives for use in photoengraving and for preparation of zinc plates. The gauge features a slide rule type of construction, so the operator can place an original picture above the gauge and move it along until, as near as he can gauge by the eye, the darkest areas in the picture are of identical darkness with one of the seven body plaques which make up the gauge. Then the original is held in position beside the selected dark plaque and the slide is moved along to find the light plaque of the same density as the lightest portion of the original. This secures two color matches expeditiously. A chart is included for indicating the appropriate flash, detail, highlight, and extra exposures for the combination of plaques found to match the original. Invented by Bernard A. Larson, Chicago, Ill. Unassigned. Application April 15, 1947. 3 claims.

2,496,014. APPARATUS FOR FORMING THERMOPLASTIC MOLDS FOR USE IN ELECTROTYPING. Device includes a supporting table, two spaced compartments on the table and a bed slidably mounted on the table. The bed may be moved into either of the compartments. One of the compartments is cooled by cool air under pressure, the other is heated by an electrical device. A cylindrical press is rotatably mounted on the table, above the bed and between the compartments. Electrical elements heat the inside of the press. The heated roller press and carriage provide for forcing heated plastic material onto a printing plate to form a mold or case. The device and method can be used for making all types of matrix and also for the rectification of type form. Invented by Robert H. Myers, Des Moines, Ia. Unassigned. Application May 11, 1946. 3 claims.



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Printing Inks

During the five weeks covered by this report, no patents have been issued for this heading.

Printing Presses and Equipment

2,493,059. CLUTCH AND LOCKING DEVICE is applicable to the vertical drive shaft arrangement of a multicolor printing press, wherein it is required that the directions of the printing cylinders be reversed in order to superimpose one color upon another, and enables forward, reverse and uncoupled positions. A driven gear is rotatably mounted about the vertical driving shaft. A coupling sleeve, rotatable with the shaft and slidable along a key fixed thereto from an uncoupled to a driving position, engages the gear. A locking member turnable with respect to the sleeve holds same from sliding movement along the key in both the driving and uncoupled position. The key is mutilated at a number of points in its length to permit locking movement of the locking member at a number of points along the shaft. Invented by Curtis S. Crafts, Oak Park, Ill. Assigned to The Goss Printing Press Co., Chicago, Ill. Application March 1, 1945. 14 claims.

2,493,628. OPTICAL MEANS FOR REGISTERING PRINTING SURFACES. Invention provides a frame and housing having a window. Mirrors in the housing are arranged to reflect coacting printing surfaces of a pair of cylinders in superimposed relationship to the window. By observation through the window any misregister of the printing surfaces can be noted and corrected. Mirror housing is movable on the frame and can be moved lengthwise along the cylinders for

For Patent Research in the U. S. Patent Office, or a prompt estimate on any type of search, address INVENTION, INC., Munsey Bldg., Washington, D.C.

bringing into view different coacting printing surfaces arranged lengthwise of the cylinders. Invented by Earle L. Harley, Brooklyn, N. Y. Unassigned. Application December 15, 1945. 7 claims.

2,494,443. A DRIVING UNIT FOR A WEB REWIND ROLL is provided which will operate automatically on a principle whereby increasing centrifugal forces influencing the frictional resistance are applied approximately directly proportional to the increasing torque. The invention includes aligned rotary driving, driven and intermediate elements, a fixed housing having an inner annular friction surface concentric with a common axis of the rotary elements and a weighted brake shoe pivoted on the rotary intermediate element in position to be swung by centrifugal force into contact with the inner annular friction surface of the housing. Invented by Hans J. Luehrs, Westerly, R. I. Assigned to C. B. Cottrell and Sons Co., Westerly, R. I. Application June 6, 1946. 11 claims.

2,495,017. SEALING MEANS FOR ROTARY INTAGLIO PRINTING PRESS INK FOUNTAINS. Novel seals for the fountain at the upper portion of the printing cylinder at its ends are combined with means for preventing the escape of the ink from the cylinder through the space between the back frame and the doctor blade. The ink seal comprises a holder bar secured along the upper edge of the back frame and a sealing plate secured to the upper surface of the holder bar and pressing against the inner edge of the lower blade clamping bar. Narrow spring strips are secured to the holder bar at their lower ends and sealing blocks are secured to the upper portions of the spring strips in position to press against the under surfaces of both the doctor blade and the inner edge of the lower blade clamping bar beyond the upper edge of the sealing plate. The sealing blocks are located beyond the ends of the cylinder and overlap the transverse surfaces of the said ends. Invented by Joseph E. Meyer, Westerly, R. I. Assigned to C. B. Cottrell and Sons Co., Westerly, R. I. Original application April 21, 1945; divided and this application March 20, 1947. 2 claims.

2,496,194. POWDER DISTRIBUTOR FOR PREVENTING OFFSET FROM FRESHLY PRINTED SHEETS. The invention concerns a powder receptacle having a cover containing air-admission and powder-discharge passages. Air is admitted to the bottom of the receptacle and is caused to sweep across the curved bottom to thoroughly stir up the powder. A plurality of spray pipes are connected to the discharge opening of the receptacle whereby the powder blast can be directed in a plurality of directions to cover a large and variable area of the printed sheet to be powdered. Area may be varied by means of readily adjustable connections in the spray pipes. Invented by Sidney Bennett, New York, N. Y. Unassigned. Application August 19, 1946. 4 claims.

2,496,200. PLATE SECURING MEANS. Mechanism for locking a stereotype plate to a rotary printing cylinder by tension includes a plurality of rotatably mounted plate engaging resilient hooks. Each hook comprises a plurality of laminations and is preferably preloaded so as to exert effective tension upon being rotated through a small angle. Worm actuated toggle means are employed in the cylinder to produce rotation of the common mounting means for the hooks. The worm is operated by a hand wrench. Hooks engage recesses formed along a straight edge of the plate, preferably the trailing edge, while recesses along opposite edge are engaged by rigid and stationary hooks. Invented by Curtis S. Crafts Oak Park Ill. Assigned to The Goss Printing Press Co., Chicago, Ill. Application September 21, 1946. 1 claim.

Chicago Address Changes

The Chicago office of the Printing Machinery Div., Electric Boat Co., has moved to new and larger offices in the same city, it has been announced by Mal O. Brewer, Sales Manager for the Division. The new address is 120 S. LaSalle St., Chicago 3, Ill. The telephone number remains the same, ANdover 3-6523.

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EXECUTIVE Cs

Russell Ernest Baum, President of Russell Ernest Baum, Inc., has announced that Glenn Davis, former West Point football star, has joined the sales force of the Baum organization. Mr. Davis will be granted a leave of absence during the Fall months to play professional football. Other additions announced by Mr. Baum include Charlie Nash, captain of West Point's track team in 1947 and 1948, and George Guida, former Villanova College football star. Mr. Nash was awarded the coveted West Point medal for having done the most for athletics while at the Academy. Mr. Guida served as president of his class at Villanova.

James F. Costello, President of Lanston Monotype Machine, has announced the appointment of Ray W. Gutzwiller as Manager of the Chicago district. Mr. Gutzwiller has been associated with Lanston Monotype in this district prior to and after World War II. He succeeds the late James H. Sweeney.

Turn To Page 63

For unusual opportunities in Used Equipment and Help Wanted. This month in the PEE Classified Ads.

George W. Ullman, President of Sun Chemical Corporation, has announced that Ralph C. Persons has been elected

Ralph C. Persons, elected Vice President and Director of Sun Chemical Corp.

a Director and Vice President of the Corporation. Mr. Ullman also announced that William Recht has resigned as a Director and Vice President of Sun Chemical Corp.

Public Printer John J. Deviny announced recently that Russell H. Herrell, Executive Officer at the Government Printing Office, was leaving the GPO. Subsequent to Mr. Deviny's announcement, A. E. Giegengack, President of

Russell H. Herrell, Executive Officer at the GPO, has left that post to enter private business.

National Graphic Arts Expositions, Inc., announced that Mr. Herrell has been appointed Assistant to the President with that organization. Before joining the GPO in 1934, Mr. Herrell was a legal and accounting expert in the General Accounting Office. At the GPO he is credited with having been in large measure responsible for the modernization of that office and with having contributed to the success of the wartime production and procurement program in which the office was engaged. Mr. Herrell is a certified accountant and member of the District of Columbia Bar. His request to leave the Federal Service was made effective February 28, 1950.

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The Ralph C. Coxhead Corp. has announced the appointment of R. Randolph Karch as Director of Typography and Research. His duties will include the upgrading of operators of the DSJ Cox-

R. Randolph Karch, appointed Director of Typography and Research, Ralph C. Coxhead Corp.

head Composing Machine in the design and layout of cold type composition. Mr. Karch is the author of several text books and articles on the Graphic Arts. He is a past president of the Pittsburgh Club of Printing House Craftsmen and served as Chairman of the International Craftsmen's Research Commission for two years. He served with the Navy during the last war. Before the war, Mr. Karch was principal of the Cincinnati High School of Graphic Arts, and technical supervisor of the printing laboratories at Rochester Institute of Technology.

John T. Renshaw, Vice President in charge of the E. P. Lawson Co.'s Mid Western Branch in Chicago, has announced the appointment of J. Arch

J. Arch Clarity, Sales Representative for E. P. Lawson Co.'s Midwestern Branch in Chicago.

Clarity as sales representative. Mr. Clarity, who resides in Excelsior, Minn., will represent Lawson in Minn., Ia., Western Wis., Eastern Neb. and the Dakotas. A graduate of the University of Minnesota, Mr. Clarity was formerly associated with the Metals Refining Co. and the Certified Dry Mat Co.

Federated Metals Div., American Smelting and Refining Co., has announced the appointment of Leon A. Blum as Sales Manager of its San Francisco plant. He succeeds Forest A. Wahlheim, retired. At the same time, Donald H. Beilstein was made Assistant Plant Supt. The announcement was made in San Francisco by Frederick Walker, General Manager of the company's Pacific Coast Dept.

James Alden, Manager of International Printing Ink's Kalamazoo, Mich., office, was honored recently at a testimonial dinner in celebration of his 40th year in the printing industry. Glen S. Graham, Vice President of the Sutherland Paper Co., was toastmaster for the Alden dinner. Speakers included Col. Joseph W. Viner, IPI Vice President of New York; Ralph A. Hayward, President of Kalamazoo Vegetable Parchment Paper Co.; John Wood, Vice President of KVP, and Bromwell Ault, Vice President of Interchemical Corporation.

James Alden, Manager of IPI's Kalamazoo, Mich., office, honored on 40th year in printing industry.

Mr. Alden has been associated with IPI since 1928. He started his career as a

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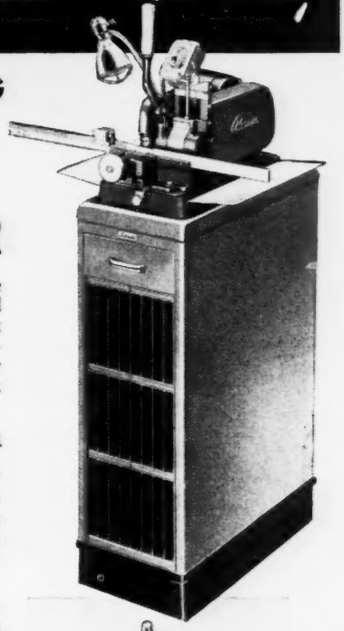

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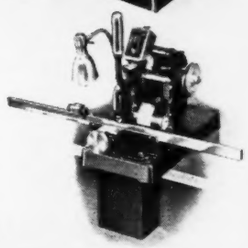
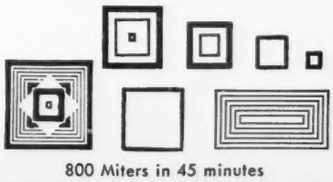
You may buy any Rouse Power Miterer as a bench model or with any other equipment you wish.

Virtually every printing plant in the world uses one or more Rouse products.

Write today for illustrated folder.





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GRAPHIC ARTS EXPOSITION
CHICAGO · SEPTEMBER 11-23 · 1950

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BAND SAWS

printer's devil on the Janesville (Wis.) *Gazette* in 1885. He has also been associated with Western Newspaper Union and Queen City Printing Ink Co.

Sidney P. Voice, executive vice president of the Consolidated Lithographing Corp., Brooklyn, New York, has been elected to the Board of Trustees of the National Jewish Hospital at Denver, Colo., it was announced recently by Milton L. Anfenger, president of the pioneer free non-sectarian tuberculosis institution. He will serve on the Board for one year.

R. M. Junker has been appointed Manager of Industrial Roll Sales Dept., Goodyear Tire and Rubber Co., replacing Ernest Peterson who has retired, according to an announcement by H. D. Foster, Manager of the company's Mechanical Goods Div. Mr. Junker, a graduate of Columbia University, joined Goodyear in 1942. He served in the U. S. Navy from 1944 to 1946. Mr. Peterson joined Goodyear in 1943 as a staffman in the Mechanical Goods Div. after 32 years' experience in the rubber industry. He was appointed manager of Industrial Roll Sales in 1946.

Appointment of Joseph McConnaughey, jr., as Southern District Manager for the Harris-Seybold Co., has been announced by Ren R. Perry, General Sales Manager. McConnaughey has been in charge of Harris-Seybold's Atlanta (Ga.) branch since January 1949. He will be responsible for sales and service in Tennessee, No. and So. Carolina, Florida, Georgia, Alabama, Mississippi, Louisiana, Arkansas, Oklahoma and Texas. Mr. McConnaughey has been with Harris-Seybold since 1939. Headquarters for the Southern District will be at 220 Luckie St., N.W., Atlanta 3, Ga.

Joseph McConnaughey, jr., named Southern District Manager, Harris-Seybold Co.

M. C. Brewer, Sales Manager of the Printing Machinery Div., Electric Boat Co., has announced the appointment of

Owen E. Adams, Mid Western District Sales Representative for Printing Machinery Div. Electric Boat Co.

Peter A. Rice, appointed Sales Representative in Eastern District, for Printing Machinery Div., Electric Boat Co.

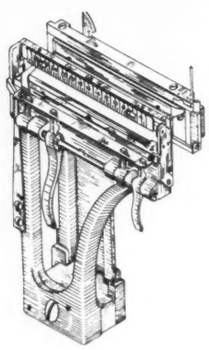
Owen E. Adams as Sales Representative in the Mid Western District and Peter A. Rice as Sales Representative in the Eastern District. Mr. Adams joined the

New STAR Everlasting

Adjustable

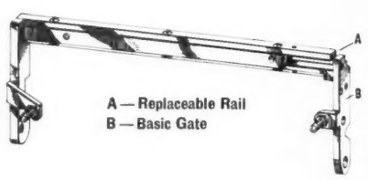
ASSEMBLING ELEVATOR GATE

for Linotype and Intertype



....is now a part of all STAR Assembling Elevators. Pictured at left is the 'basic' gate with **replaceable top rail,** covered pawl type. This rail is HARDENED to reduce wear to a minimum.

Any one of the four different rails available will adapt this basic gate into any of the four existing styles for Linotype machines, and there is one for Intertype.



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• As more and more work comes in, efficiency increases and operating costs go down, 'way down.

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• Hess & Barker's 4 to 8 Color Rotary Letterpress feeds from a roll, prints 4 colors on each side, 8 colors, once through the press, and delivers up to 10,000 sheets per hour or if desired a perfect web rewind 30" wide. Sheet size: length, 19" to 32"; width, 30".

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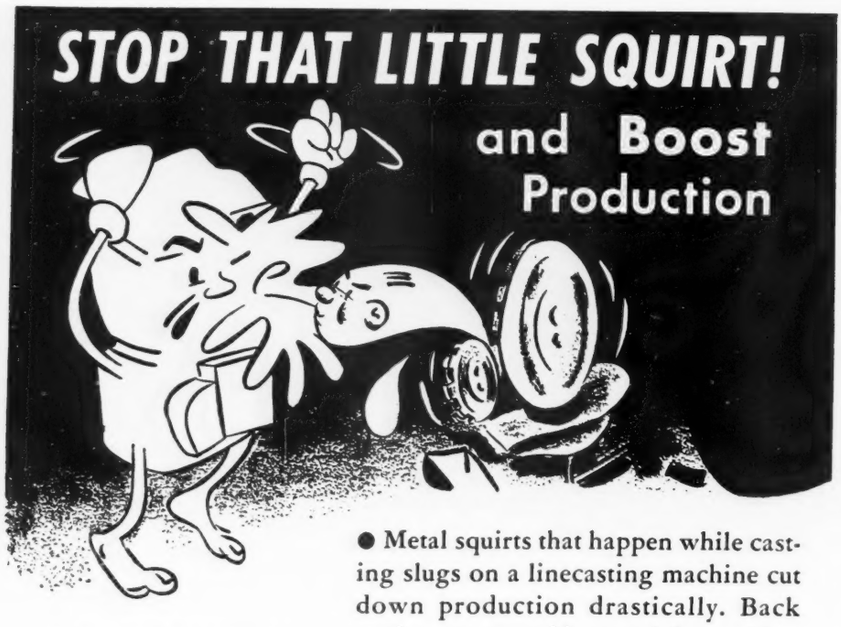
Printing Machinery Div. in 1947. He was formerly associated with Bensing Bros. & Deeney. Mr. Adams will make his headquarters in the Chicago office at 120 S. LaSalle St. Mr. Rice began his lithographic press career at the Brett Lithographing Co., Inc., prior to 1936. He has since been associated with a number of lithographic printing companies. He was also a former instructor at the New York Trade School. Mr. Rice previously served the Printing Machinery Div. as service manager. He will make his headquarters in the New York offices located at 445 Park Ave.

The Miller Printing Machinery Co. has announced that Frank A. Ross, who joined the company a year ago, has been appointed Chief Engineer of the company's new Web Department. After graduating from Bucknell University, Mr. Ross joined the engineering staff of the New Era Mfg. Co., by whom he was employed for 17 years. Mr. Ross served as Chief Engineer with New Era for a number of years.

Charles B. Belknap of the Owens-Illinois Glass Co. was recently elected to the Board of Directors of Arthur D. Little, Inc. Mr. Belknap served as the executive vice president of Owens-Illinois from 1933 to 1941, following which he was vice chairman of the Board of Directors of that company and later coordinator of research. At the same meeting, Howard J. Billings was elected Treasurer to succeed Henry G. Powning.



● Metal squirts that happen while casting slugs on a linecasting machine cut down production drastically. Back squirts are caused by metal that's either too hot or too cold—the ideal working temperature being a narrow range of 20° between 540° and 560° F.

You can maintain this ideal casting temperature at all times and so avoid costly back squirts by equipping your machine with a MONOMELT Single Melting Feeder. This attachment also gives you a constant metal level in the machine pot to assure solid, sharp-faced slugs at all times.

Actually, the MONOMELT Single Melting Feeder eliminates the pigging operation: it takes dead metal directly from killout . . . melts it . . . and cleans it.

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Gets maximum production from machine

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R & E Council

(Continued from Page 25)

tone screen is finer than 85 line. If such a compound could be developed, the scope of rubber plate printing could be increased. There is a lack of stability in the solids. In aniline ink printing, over 1 million impressions can be obtained from a plate. In oil ink printing, however, the plate doesn't have this advantage. Where wear takes place on the plates, the solids in the plates seem to be affected first by the rollers. There is a definite need for improving the inking mechanism in rubber plate printing presses.

Lithographic Plate Research

Wade Griswold, Executive Director of the Lithographic Technical Foundation, reported upon the research work currently being conducted by LTF.

First he discussed improved desensitization of litho plates by stating that the two biggest problems confronting the pressmen are, to hold the image on the plate so that it does not go blind, and the second problem is to maintain the non-image areas in clean condition. This is where improved desensitization has value. LTF made a comparison of cellulose gum with gum arabic as a desensitizing medium and found cellulose gum superior for the purpose. A technique has been worked out for applying the cellulose gum to the plates.

With respect to the Cronak metal surface treatment of the plate, the plate surface is prevented from oxidizing, otherwise it is almost certain that there will be trouble when the pressman tries to run the plate.

The Cronak process was developed to convert the surface of a zinc plate into an oxidation resisting film, on which will not interfere with subsequent platemaking operations. The process consists in the treatment of a clean counter-etched grained zinc plate for a few seconds in a solution containing sodium or ammonium bichromate and sulphuric acid. Any excess chemicals are washed off with a gentle stream of water when the plate is dry. The plate may be used immediately for either albumen or deep etch plate, or it may be stored for future use.

In the Brunak process, LTF discovered that a surface film similar to Cronak can be produced on aluminum plates with a mixture of ammonium bichromate and hydrofluoric acid. The film is light brown or grayish brown in color. Application of a Brunak surface film to aluminum is almost the same as the application of a Cronak to zinc except that a longer period of emersion is required—from 15 to 30 sec. Aluminum plates treated with Brunak are protected from oxidation.

Mr. Griswold also discussed tone reproduction and lithography and sensitivity of bichromated colloids, grain

PLAIN TALK . . . AT THE MONDAY MORNING HUDDLE

"We have had a successful year and have handed out a lot of compliments," remarked the Production Manager. "I want to say a word for Ansel, the best stereo foreman in a dozen states. Think what it has meant to us to have plates a little better than the other paper and always on time. Ansel is so quiet, we overlook how good he is."

"Quiet?" countered the Production Manager, "Did you hear him that day someone tried to talk him off of Certified Mats? Ansel can speak up when he has reason."

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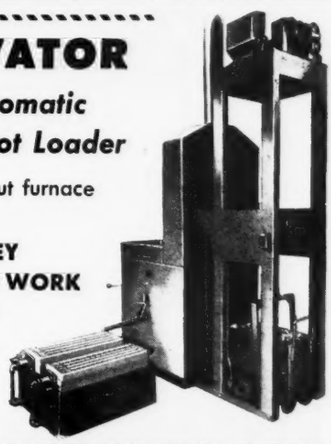

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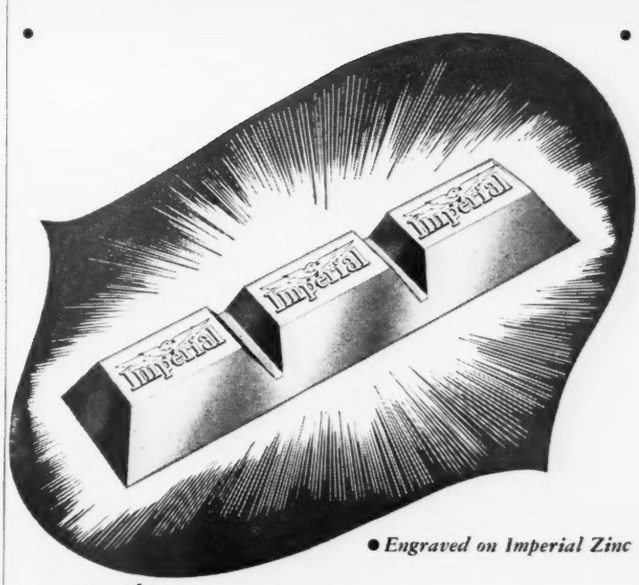

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standardization, press blanket research and new photosensitive materials.

Gravure Research Problems

In the absence of Oscar Smiel, Vice President in Charge of Mfg., Intaglio Service Corp., New York, Joseph H. Molitor, General Mgr. of Art Color Printing Co., Dunellen, N. J., presented Mr. Smiel's paper on Gravure Platemaking Problems. Mr. Molitor outlined Mr. Smiel's paper with respect to gravure problems. First, he said that platemaking in gravure is a twofold problem involving the engraving photographically of flat copper plates for wrapping around the press cylinder in order to print sheet-feed rotary gravure, and the engraving similarly of cylinders having the shallow copper shell for rotary sheet feed or web printing at high speeds for volume production. Carbon tissue is an unstable, light sensitive gelatin faced transfer paper. At present, it is a project at Battelle Memorial Institute for Gravure Research, Inc.

The speaker stated perchloride of iron etching solution lacks uniformity. A standard chemical content should be devised as well as recommendation for procedures in handling by gravure etchers. It is highly desirable to provide facilities for making screens since the supply is inadequate. Needed especially are coarse screens. A method is needed for copper plating cylinders to give a polished surface without additional use of polishing stone or fine emery paper. The chromium plating commonly used in newspaper, magazine and packaging fields requires critical care. A substitute method is needed for hardening the copper surface after engraving to insure long runs of 2 million to 20 million revolutions. The flexible spring steel blade used to oscillate across the face of the cylinder or over the plate to wipe off surplus ink wears the etched surface and causes uneven printing scratches. A substitute would be a boon to the industry.

Particularly stressed was the need for improved emulsions and color correction methods to reduce present excessive amount of personal judgment and excessive retouching or plate correction in preparation of color separations for process work in all three of the major graphic arts processes.

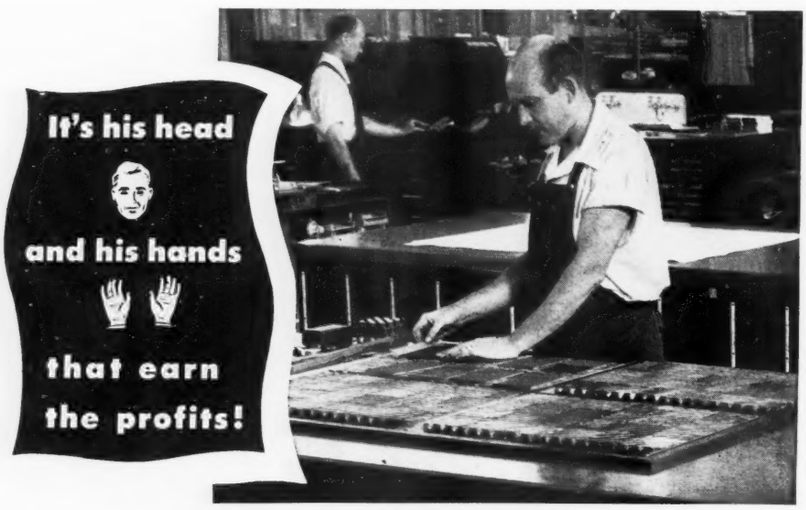
Silk Screen Research

Milton Grant of Silk Screen Process Co., Cleveland, represented the Silk Screen Process Printing Association. It was apparent from Mr. Grant's talk that the silk screen process has never been the object of research nor fundamental analyses in terms of chemistry, physics and mechanics.

Among the objectives enumerated are relationship between cloth, ink and sharpness of print, appraisal of chemical and mechanical factors in wear and tear upon length of screen life. Material for the squeegee blade should be investigated to see whether rubber, Neoprene, wood, plastic, metal, as well as the size and shape of blade are most suitable. He stated that stud should be made of the design of the printing table which should be taken into consideration the sizes and nature of the jobs.

For the making of plates, knife-cut films for the printing of lacquers and for printing of aqueous systems should be developed. Photographic materials for the process should also be developed.

A study should be made of paints and inks in terms of chemistry and physics, development of testing procedures and simple instruments for shop use should be determined. A simple guide for color matching should be developed. A press should be developed that will feed, print and deliver sheets dry as is now done in other divisions of the Graphic Arts.



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Photogelatine

(Continued from Page 29)

After exposing, the plate is placed under running water to wash out the bichromates. At this point, a chemical action, or various degrees of swelling, takes place on the plate. The parts of the image on the plate which have been exposed longest, such as the shadows, will absorb the least water and remain deep.

The part of the gelatine plate, which was covered by red masking paper and

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After years of dry mat production, of one thing we are sure . . . you can't determine the quality of a mat by its appearance. Of course, you can see external imperfections if present but the real ability to produce quality reproductions is a "built-in" quality—and that's where BEVERIDGE MATS really shine. They are good-looking mats . . . yes . . . but more than that, they have that "built-in" uniform, high quality that leading stereotypers want. Send for an order . . . inspect their appearance, if you want to—but try them . . . then you'll see that quality difference.

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If you have A LATE SERIAL
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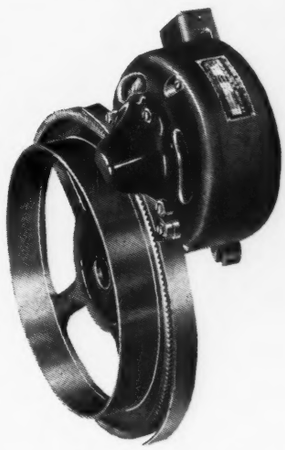
equipped with lowered elevating mechanism (Cannon)
Modernize it with the
NEW *BALL BEARING* TYPE
CUSHMAN MOTOR



This new motor has pulley gears in two parts. Hub may be separated from gear and applied to driving shaft in that order. The two parts are joined with screws and dowel pins.

Or, if you have an older model Linotype, you may have the new Cushman Ball Bearing Motor equipped with regular driving pulley gear.

We continue to manufacture the conventional Sleeve Bearing Cushman Motor and will supply this type when the new Ball Bearing model is not specified.

Further information will be sent upon request.

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which was not struck by light, will swell up the most and retain enough moisture in order not to accept any ink. The plate is dried at room temperature or by an electric fan. Before it is locked on the press, the plate is submerged in a solution of water and glycerine to cause a swelling of the gelatine.

Collotype Printing

The plate is locked on a direct rotary press in the same manner as an offset plate is locked on a offset press. The plate is then dried with paper, but the gelatine retains approx. 70 per cent of the moistness but is not wet. When the ink rollers pass over the plate, the deep parts, such as the shadows, will receive the most ink. The balance of the image will accept ink in direct proportion to the amount of light absorbed by the plate.

The only makeready required is in chemically treating the plate. For instance, if the image is too dark, the plate is rubbed or edged down with a solution comprised of water, glycerine and ammonia. On the other hand, if the image is not strong enough, a mixture of grain alcohol, glycerine and tannic acid is used, which hardens the image and consequently will accept more ink.

Before starting to print the actual run, the plate must be hardened by using a mixture of water, glycerine and formaldahyde. This toughens the gelatine to such a degree that it is possible to print up to 5000 or more impressions from one plate.

A gelatine plate is always alive and therefore, subject to all weather changes. For successful Collotype printing, a pressroom must have a humidifier to afford the plate an opportunity to absorb moisture, which is taken out of the gelatine and absorbed by the paper because of the direct contact of the plate and paper.

The average daily run (8 hrs.) of a 44 in. by 64 in. sheet varies according to the quality desired from 3000 to 5000 sheets. A plate can easily be destroyed by a wrinkle in the paper, which could cut the gelatine down to the metal, or any other hard substance which comes in contact with the plate while the press is running.

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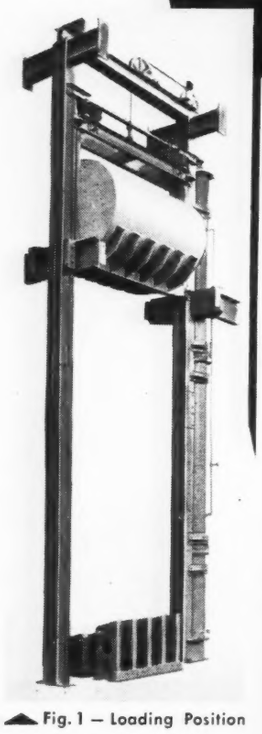

Fig. 1 — Loading Position

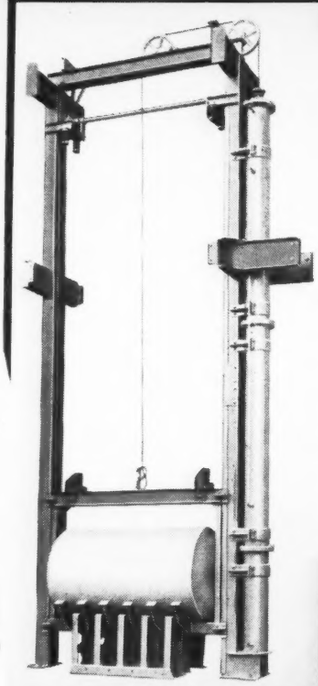

Fig. 2 — Discharge Position

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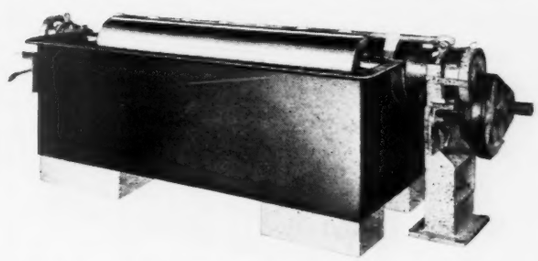

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ITCA Research Bulletin

The Technical Research and Standardization Dept. of the International Typographic Composition Association has issued a 20 page bulletin containing a series of tables for estimating key-strokes and character count and for use in copy-fitting of slug casting machine type faces in sizes 6 to 14 pt. The report is available to ITCA members only.

The figures contained in the report were arrived at by computations based on data covering the lowercase alphabet lengths of machine-set type faces supplied by either the Intertype Corporation or Mergenthaler Linotype Co. A separate series of tables will be compiled in the future to provide the same information covering Monotype faces in sizes available for machine typesetting, according to Frank M. Sherman, Executive Director of the Intl. Typographic Composition Association.

Listed in the report is the schedule of alphabet lengths for the various point sizes from 6 to 14 pt. which has been adopted as standard by the ITCA Trade Customs and Practices Committee. The standard lowercase alphabet length for each point size is used for determining the relationship of each Linotype and Intertype face and point size to the standard for that size. The set-size of each face and size shown in the tables has been determined by comparing its lowercase alphabet length with the standard for each size.

Other information contained in the bulletin shows the percentage of additional key strokes which will be required to set a given amount of composition in faces of less than standard set-width as compared to the standard for that point size. The characters per pica of each face and point size are listed. The linear measurement in picas required to embrace 1000 characters of each face and point size, a new method of measuring production, is also given.

The last column of the tables lists the linear measurement in picas required to set 1000 set-ems of each face and point size. It is stated in the bulletin that this information will enable determining actual production of set-ems of each face and point size. It will also serve as the basis of billing for set-ems instead of point-ems.

Hewson Expansion

The John Hewson Co. has announced the expansion of its rubber and plastics division for handling standard and special application problems. Harry Bradbury has been appointed as specialist and consultant in charge. The Hewson company is located at 106 Water St., New York 5, N. Y.

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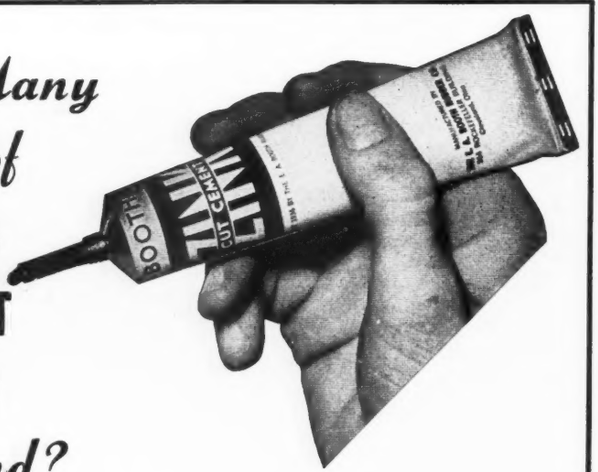

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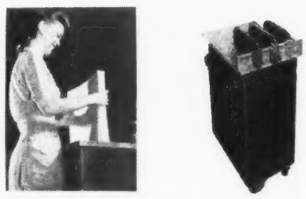

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Hoe Rotogravure Web Press units; used, good running condition; five units—68 inches width Web; 2 units—58 inches width Web; produces monotone and multicolor; converting or publication printing; also newspaper and magazine folders available. Reply Box 342, Printing Equipment *Engineer*.

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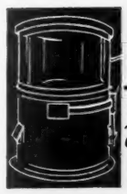
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British Woman Lectures on Typography

Mrs. Beatrice L. Warde, international typographic authority, returned to the United States in March to give a series of lectures. Although Mrs. Warde was born in this country, it was in England that she attained her position of prominence in the field of typography. She is the author of the world-famous inscription "This is a Printing Office, Cross-Roads of Civilization . . ."

At her lectures Mrs. Warde plans to exhibit and discuss the typography of a collection of British books, pamphlets, letterheads, catalogs, hand bills and magazines. All topics chosen by Mrs. Warde for her lectures will be of an informative nature, and should prove helpful and interesting to publishers, typographers, art directors, advertising and production men.

Mrs. Beatrice L. Warde, international typographic authority, lectures in United States.

Mrs. Warde's itinerary is: Philadelphia, March 9 to 16; Chicago, March 17 to March 26; Boston, March 26 to April 6; Philadelphia, April 9 to April 22; New York, April 24 to May 1; Toronto, Canada, May 1 to May 5. The Toronto appearance completes the 75-day tour.

Mrs. Warde's tour is sponsored jointly by Monotype Corp., Ltd., of London, and Lanston Monotype Machine Co. of Philadelphia.

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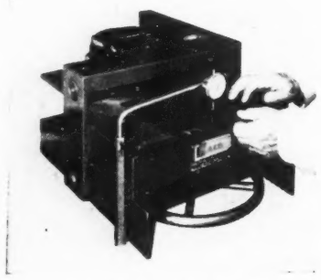

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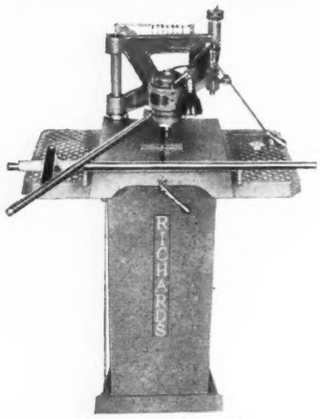

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Author of New Book

A new book, *Making Work Human*, by Glen U. Cleeton, Dean of the Div. of Humanistic and Social Studies at Carnegie Institute of Technology, was chosen Business Book of the Month for February by Executive Books, Inc. The book, recently published by Antioch Press, describes how to make satisfactory job adjustment, how to restore to the modern factory worker a craftsman's pride in his work, and other similar problems in making work more than just a meal ticket.

Dean Cleeton has contributed many articles on industrial selection and psychological measurement to professional journals, and is co-author (with Charles W. Mason) of another book, *Executive Ability: Its Discovery and Development*. He has also developed several psychological tests and rating scales which are widely used in business organizations and educational institutions. He was formerly head of Carnegie's Dept. of Printing Administration.

Sun Chemical Dividend

Sun Chemical Corp.'s net profits for 1949, as announced by George W. Ullman, President, were $1,499.041 or $1.18 per share on common stock after preferred stock dividends and taxes. Sun Chemical Corp. is one of the leaders in the printing ink, paint, and textile chemical fields. The high earnings, it is stated, are attributed to internal reorganization with a consequent increase of efficiency in production and distribution.

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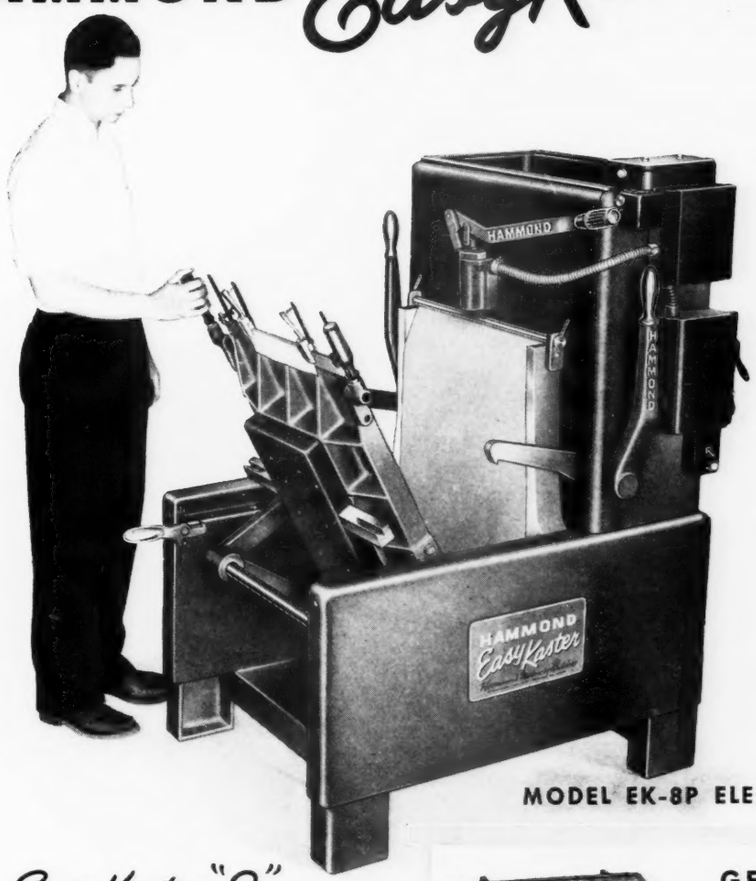

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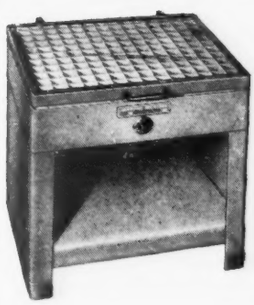

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